DOCUMENT RESUME

ED 219 523 CE 033 098

AUTHOR Hafer, A. A.
TITLE Assessment Instruments for Use in Two-Year College Career Planning and Development Programs.
PUB DATE 14 May 82
NOTE 66p.; For a related document see CE 033 097.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Aptitude Tests; Career Choice; *Career Development; *Career Planning; Evaluation Methods; Maturity Tests; Occupational Aspiration; Occupational Tests; Predictive Validity; *Standardized Tests; Test Format; *Test Selection; *Two Year Colleges; *Vocational Aptitude

ABSTRACT

Assessment instruments play an important role in the 2-year college career planning and development process. The importance of these devices indicates that considerable thought and planning is necessary to ensure use of the best instruments for the particular college. A literature review and a survey of seven 2-year colleges in the Albany, New York, area and six 2-year colleges nationwide were conducted to determine which tests these colleges use in their career planning and development programs. Based on this information, the following tests were recommended for 2-year college career planning and development programs: an aptitude test, especially the Differential Aptitude Tests; an interest inventory, particularly the Strong-Campbell Interest Inventory for students who plan to transfer to a 4-year college, and the Career Assessment Inventory for terminal program students; career awareness, knowledge, and attitude tests, such as the Self-Directed Search (Holland), and the Jackson Personality Research Form E, on an as-needed basis. (The greater part of this paper reviews various career preference and development assessment instruments and details which colleges use which forms.) (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED219523

ASSESSMENT INSTRUMENTS FOR USE IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS

A. A. HAFER

MAY 14, 1982

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

A.A. HAFER

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE033098

This paper was prepared for EPSY 697, an independent study under the direction of Dr. Mary Anastasiow, Department of Educational Psychology and Statistics, School of Education, State University of New York at Albany

INDEX

TITLE	PAGE
PREFACE	1
INTRODUCTION	3
OCCUPATIONAL CLASSIFICATION SYSTEMS	4
PURPOSES OF ASSESSMENT INSTRUMENTS IN CAREER PLANNING AND DEVELOPMENT	5
TYPE OF ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGES CAREER PLANNING AND DEVELOPMENT PROGRAMS	6
SELECTING ASSESSMENT INSTRUMENTS SUITABLE FOR CAREER PLANNING AND DEVELOPMENT PROGRAMS AT TWO-YEAR COLLEGES	11
APTITUDE TESTS FOR TWO-YEAR COLLEGES	11
INTEREST INVENTORIES USED IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS	12
CAREER MATURITY MEASURES USED IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS	14
WORK VALUES ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS	14
CAREER AWARENESS, KNOWLEDGE AND ATTITUDE ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGE FOR CAREER PLANNING AND DEVELOPMENT PROGRAMS	15
PERSONALITY TESTS USED IN TWO-YEAR COLLEGES	15
PREPARING FOR TESTING	15
TEST INTERPRETATION	16
INTEGRATION OF ASSESSMENT INSTRUMENTS AND COMPUTERIZED CAREER GUIDANCE SYSTEMS	16
RESULTS OF INTERVIEWS AND MAILED QUESTIONNAIRES RELATIVE TO ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGES FOR CAREER PLANNING AND DEVELOPMENT	18
RECOMMENDED ASSESSMENT INSTRUMENTS FOR USE IN A TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAM	22
CONCLUSION	24

APPENDICES

TITLE	LETTER
HOLLAND'S PERSONAL ORIENTATIONS (LIFE STYLES)	A
COMPARISON OF USDL, ROE, & HOLLAND OCCUPATION CLASSIFICATION SYSTEMS	B
PROFESSIONAL CAREER DEVELOPMENT PROGRAMS	C
DIFFERENTIAL APTITUDE TESTS (DAT)	D
GENERAL APTITUDE TEST BATTERY (GATB)	E
VOCATIONAL PLANNING INVENTORY (VPI)	F
CALIFORNIA OCCUPATIONAL PREFERENCE SYSTEM (COPS)	G
CAREER ASSESSMENT INVENTORY (CAI)	H
KUDER OCCUPATIONAL INTEREST SURVEY FORM DD (KOIS)	I
STRONG-CAMPBELL INTEREST INVENTORY (SCII)	J
VOCATIONAL PREFERENCE INVENTORY (VPI)	K
CAREER MATURITY INVENTORY (CMI)	L
HALL OCCUPATIONAL ORIENTATION INVENTORY (HOOI)	M
WORK VALUES INVENTORY (WVI)	N
HARRINGTON/O'SHEA SYSTEM FOR CAREER DECISION-MAKING (CDM)	O
SELF-DIRECTED SEARCH (SDS)	P
PERSONALITY RESEARCH FORM (PRF)	Q
TWO-YEAR COLLEGE CAREER COUNSELING QUESTIONNAIRE	R
INTERVIEW SUMMARY FOR N. Y. CAPITAL DISTRICT TWO-YEAR COLLEGES	S
MAILED QUESTIONNAIRE SUMMARY FOR TWO-YEAR COLLEGES	T

PREFACE

The objective of this paper is to review and recommend assessment instruments suitable for use in a two-year college Career Planning and Development Program. To achieve this objective a comprehensive literature search on this subject was conducted using the ERIC data base, as well as the resources of the Library at the State University of New York at Albany.

In addition to a review of the most recent literature, the practical aspects of this subject were explored by conducting interviews with Career Counselors/ Job Placement Officers at the seven two-year colleges located in the Albany Capital Area. Mail responses to a questionnaire, developed for this study, were received from six other two-year colleges located in various parts of the United States.

Appreciation is expressed to the following for their participation in the interview portion of this study.

College	Interviewee	Position
Adirondack Community College Glens Falls, N. Y.	Beth Ann Faller	Counselor
Junior College of Albany Albany, N. Y.	Richard A. Naylor	Director of Career Services
Cobleskill College, SUNY Agricultural & Technical College Cobleskill, N. Y.	Wayne Morris Nancy Ann Burton	Counselor Director of Placement
Columbia-Greene Community College Hudson, N. Y.	William Mathews	Counselor
Hudson Valley Community College Troy, N. Y.	J. Willard Doran	Director, Counseling & Testing
Maria College Albany, N. Y.	Pat Rhodes	Counselor
Schenectady County Community College Schenectady, N. Y.	Thaddeus Raushi	Counselor

In addition to the interviews indicated above, a questionnaire was mailed to 17 two-year colleges with the following geographical dispersion.

Area of U.S.	Questionnaires Sent Out	Questionnaires Returned
Northeast	2	1
Southeast	7	3
Midwest	4	1
Southwest	2	1
West	2	0
TOTAL	17	6

The community colleges selected for interview were all public except for Maria College which is a two-year college sponsored by the Religious Sisters of Mercy of Albany, Roman Catholic Church. All but two of the colleges which received mailed questionnaires were private two-year colleges affiliated with various religious denominations. It was desired to see if there were common or dissimilar patterns in career planning between the public and private religious two-year colleges. Peterson's Annual Guide to Undergraduate Study 1982 was used to screen and select the colleges, based upon the following criteria:

1. Two-year college
2. Geographical dispersion as indicated previously
3. Religious affiliation
4. The larger size colleges in the geographical area with 500 students or larger.
5. Peterson's Guide stated that the college provided career services.

An initial mailing was made to the 17 colleges selected with a follow-up mailing three weeks later. The colleges and responding individuals to the mailed questionnaire are listed below:

College	Affiliation	Survey Respondent	Position
Anderson College Anderson, S.C.	Independent Baptist	Robert L. Richardson	Counselor
Brewton-Parker College, Mt. Vernon, Georgia	Independent Baptist	Vance Rhoades	Counselor
Greenville Technical College, Greenville, South Carolina	Public-State & County	Yvette W. Smith	Career Counselor
College X Southwest	Public-State & County	Did not grant permission to identify college but completed questionnaire.	
Springfield College in Illinois, Springfield, Ill.	Independent Roman Catholic	Marilyn Moquin	Counselor
Trocaire College Buffalo, N. Y.	Independent Roman Catholic	Betty Corcoran	Director, Career Planning and Placement

The effort of the above individuals in completing the questionnaire is greatly appreciated.

The information contained in this study on the DISCOVER II interactive computer career guidance and information system was provided by Neil C. Brown, Jr., Dean For Student Affairs, SUNY-Albany. This recent material added substantially to the study. Dean Brown graciously gave of his time to discuss past and current investigations conducted by the State University of New York relative to computerized career guidance systems.

INTRODUCTION

Weinrach, (1979) states that the three components to vocational guidance include testing, information giving, and decision making through reasoning. Lennon in 1961 estimated that some 200 million standardized tests were administered annually in the schools of this country (not all for career planning) and there was no sign of abating. According to Prediger (1980) "Vocational counselors should be pleased, on the whole, with recent trends in the marriage between tests and career counseling." He goes on to indicate that we are beginning to see test score reports and other material that help counselors and students "bridge the gap" between test scores and their implications for Career Planning and Development (CP&D). "These reports and materials provide concrete suggestions for exploring the career options suggested by the test scores."

It was estimated in 1978 that 3.5 million persons took vocational interest inventories indicating the current interest and emphasis on Career Planning and Development (CP&D). Prediger (1980) indicates that "The primary role of tests and other assessment procedures is to provide focus to career exploration."

There is a trend for articulative guidance/assessment programs. The three dimensions of articulation involve:

1. A comprehensive assessment battery with an integrated score report.
2. Translation of test scores to career options.
3. Career guidance support materials (Prediger, 1980).

Most tests have not yet gone the full route to three-way articulation, but considerable progress has been made along the translation dimension. Translation refers to correlating the student's test scores to career-related implications without having to make "a clinical case" out of it. SRA's Vocational Planning Inventory (to be discussed later in the paper) shows localized grade predictions for various vocational/technical programs in chart form (Prediger, 1980). Testing programs must be integrated into on-going career guidance efforts.

Prediger (1980) concludes by saying that "Practitioners should expect even more from tests in the future. If test publishers do their part, counselors will no longer have to become psychometric experts to use career counseling tests properly. Tests will still need to be carefully evaluated before they are adopted. Most of the time saved by front-line counselors, however, in learning all there is to know about the test, in preparing for clinical intrepretations of scores, and in conducting these interpretations, could be devoted to follow-through, to actively involving students in self/career exploration. It should be easier for schools that currently devote no time to the objective assessment of their student's career related characteristics to find this time. Furthermore, such schools should be able to find tests that link to their on-going career guidance activities. Tests should be easier to live with!" Admittedly, Prediger has some bias, since he is employed by the American College Testing Program, but the thrust of his remarks are appropriate and necessary if we are to achieve continued productivity improvement in career counseling.

There are several important advantages to use of psychometric or objective techniques including:

1. Procedures for data collection are clearly understood.
2. Use of assessment instruments is normally inexpensive in terms of the counselor's time.
3. Reproducibility and minimal private subjectivity in the collection of data.
4. Many assessment instruments are computer scored, not only minimizing the counselor's time, but also insuring greater accuracy.
5. Use of a standardized test (implying uniformity of procedure in administering and scoring the test) permits comparison of similar populations so that the community college can compare the effectiveness of its program with others throughout the United States. (Sundberg, 1977, pgs. 174. 175, & Anastasi, 1976, pg. 25).

Typically, an objective assessment instrument requires a limited and structured response, either true/false or multiple choice. The resulting answers are added to arrive at a dimension or trait that relates to a criterion. The scores are treated as correlates of something else. The scales are created as indicators of a personal characteristic that has some relationship to other characteristics. (Sundburg, 1977, pg. 174).

OCCUPATIONAL CLASSIFICATION SYSTEMS

Many of the assessment instruments used in CP&D are based upon career development theories. One of the early theories was developed by Ann Roe which relates early experiences and needs with later adult behavior and types of occupations that these individuals seemed to select. Roe classified all occupations into eight broad catagories (Osipow, 1973, pg. 18-20). Roe also indentified six different levels which influenced occupations, ranging from unskilled to professional and managerial. The eight different occupation groups could have as many as six different skill levels.

A second theory or model of occupational classification is that developed by John L. Holland in 1959. Holland hypothesized that personalities can be described according to certain attributes or characteristics. He came up with six basic personality types which tend to occupy six different types of environments. All types of occupations can be divided into these six different typologies. In 1973, he further modified his theory indicating that, whereas one of these types usually predominates, individuals will use a wide range of strategy in coping with their environment and therefore could fall within the bounderies of two or more types. In Holland's view, heredity and a variety of cultural and personal forces result in developing one of the six personality types (Weinrach, 1979). Since Holland's typology is most extensively used today, Appendix A contains a brief discussion of the six types of persons along with their preferred approaches to life situations.

A third occupation classification system has been developed by the U.S. Department of Labor, U.S. Employment Service and is contained in the Guide for Occupational Exploration (Jones, 1980). Appendix B shows a comparison for the USDL 12 occupational groupings, Roe's eight groupings and Holland's six groupings. Most of the assessment instruments discussed in this paper will relate to one of these three occupational groupings.

As indicated in Appendix B, it is possible to convert the Holland codes into the USDL codes. This permits the highly desirable cross correlation for counselors so that they are not limited to the specific job titles shown in such occupational interest assessment instruments as the Strong-Campbell Interest Inventory and the Self-Directed Search (Turner, 1979).

PURPOSES OF ASSESSMENT INSTRUMENTS IN CAREER PLANNING AND DEVELOPMENT

Assessment instruments provide a vehicle that contributes to the self understanding and accurate appraisal of counselees. Four major uses of test or assessment procedures are:

1. Predictive use by using standardized appraisal data serving to forecast success in educational and career behaviors.
2. Use of tests and inventories for descrimination for permitting individuals to discover what occupational and/or educational group they resemble.
3. Monitoring so that a systematic approach to career planning and development will occur. It is necessary to identify the state of vocational development of an individual or group and this can be done by monitoring. It deals with the process of choice or readiness for choice.
4. Evaluation on how well the goals are being perceived with the intervention provided (Herr & Cramer, 1979, pg 329).

In predictive use of assessment instruments in CP&D, if there is a demonstrated relationship between performance on a given job and scores on a battery of tests, it is possible to predict, by a regression equation, the likelihood of an individual's job performance if we know the test performance. To achieve the appropriate descrimination via the assessment instrument, it must be recognized that the assessment instrument will be more accurate for a group than for an individual. Therefore, with the comparative results between a test battery and a criterion of importance, such as success on the job, it is possible to determine with some assurance how many of a given group will succeed. Prediction of a specific individual in that group is less accurate. The higher the correlation coefficient the higher the predictive validity of a given test and therefore the more useful in forecasting group achievement and to a lesser extent individual achievement (Herr & Cramer, 1979, pg. 331).

In the use of assessment instruments for CP&D the objective is to collect tests that will help the counselee to achieve a more accurate pricture of his/her potential and increase the awareness of opportunities in which they might find success. Sundburg (1977) states that "vocational choice is intertwined with personality and environment. Students in high school and college need to know their interests in order to make wise decisions for beginning studies and careers."

Appendix C summarizes some of the key characteristics of nine professionally prepared Career Development Programs. In view of the wide recognition of the value of assessment instruments in CP&D, it is startling to observe that six of these nine programs do not recommend any standardized assessment instrument. Perhaps the authors designed these packages for use by individuals who lacked psychometric training.

TYPE OF ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGES CAREER PLANNING AND DEVELOPMENT PROGRAMS

Lee, (1975) indicated that the most usefull tests in career guidance are the various interest inventories. Other tests which measure aptitude, achievement and occupational/vocational skills and determine placement in college courses can be helpful, but must be weighed against the cost involved. Ratcliff (1974) suggests that vocational interest tests and aptitude tests should be incorporated into career planning curricula.

A study made by the Southern Regional Education Board in 1977 states that testing services should be comprehensive and include not only proficiency tests, but vocational interest, ability, skill and personality tests. Lee (1975) surveyed career counselors to obtain their recommendations relative to essential vs. desirable components of a career planning and development program. This survey found that the only types of tests which were rated essential by career counselors were interest inventoies.

The Dallas, Texas, Skyline Career Development Center, offers the Strong-Campbell Interest Inventory, the California Occupational Preference Survey, The Holland Self-Directed Search and the Purdue English Inventory as part of their CP&D program (Norris, 1976).

Jones (1977) mentions a number of tests used in various colleges CP&D programs, including the following:

- Interest Inventory - California Occupational Preference Survey, Kuder Occupational Interest Survey form DD, Strong-Campbell Interest Inventory.
- Temperament - Mooney, Myer-Briggs
- Values - Allport
- College Aptitude - College Qualifications Test (verbal, informational, numerical), concept mastery, school and college aptitude tests.
- Reasoning - Differential Aptitude Tests, MATRIX
- Reading - Nelson-Denny, Gates, Davis Reading Test, Differential Aptitude Tests.
- Spacial Relations - Differential Aptitude Tests, PMA
- Art Aptitude - Graves, Meyer, and Tone SENSE
- Numerical - Wide range, Metropolitan Achievement Test, PMA
- Verbal - Michigan Vocational, PMA, EPS
- Mechanical Engineering - Bennet, Differential Aptitude Tests.
- Language and Spelling - COOP, DAT, Language Usage.

The Evergreen College of San Jose, California uses the following assessment instruments; Student Profile Indicator, Interest and Aptitude Survey, Strong-Campbell Interest Inventory, Meyer-Briggs Type Indicator, The Kuder Occupational Interest Survey, and the DAT (Blaha, 1979).

Types of tests considered during the course of this study are as follows:
A. Aptitude Tests - Anastasi (1976, pgs. 398-400) indicates that "Aptitude test performance reflects the cumulative influence of a multiplicity of experiences in daily living. Aptitude tests measure the effects of learning under relatively uncontrolled and unknown conditions. Aptitude tests serve to predict

subsequent performance. They are employed to estimate the extent to which the individual will profit from a specified course of training, or to forecast the quality of his achievement in a new situation. Predictive criterion-oriented validity is the most direct way of assessing aptitude tests. In differentiating between aptitude and achievement tests, we should especially guard against the naive assumption that achievement tests measure the effect of learning, while aptitude tests measure innate capacity independent of learning. A useful concept that is replacing the traditional catagories of aptitude and achievement in psychometrics is that of developed abilities. All ability tests - whether they be designed as general intelligence tests, multiple aptitude batteries, special aptitude tests, or achievement tests - measure the level of development attained by the individual in one or more abilities."

As used in this paper, an aptitude test is one which predicts success in some occupation or training course (Herr & Cramer, 1979). By administering a standardized battery of tests, or individual test measuring common aptitudes for which adequate criterion data are available, we can assess the cognitive domain. Interpretation is facilitated by use of a standardized battery of tests rather than individual aptitude tests that have been standardized on different populations. There are also fewer problems in administration and scoring the tests if a standardized test battery is used.

The following aptitude tests are discussed by Herr & Cramer (1979) as appropriate for career planning and development:

1. Appraisal of Occupational Aptitudes - A. Abbatiello. Grade 9-Adult. Houghton-Mifflin. Test time - 1½ hours.
2. Armed Services Vocational Aptitude Battery (ASVAB) - High School level (mainly Seniors). U.S. Department of Defense.
3. Career Planning Program (CPP) - Grades 12-13. Related to ACT Occupational Classification System and World of Work Map for job families. Emphasizes post secondary planning. Houghton-Mifflin.
4. Dailey Vocational Tests - J. T. Dailey Grade 8-Adult. Houghton-Mifflin. Test time - 2 hours.
5. Differential Aptitude Tests (DAT) - G. K. Bennett, H. G. Seashore & A. G. Westman. Grade 8-Adults. Psychological Corporation.
6. Flannigan Aptitude Classification Test (FACT) - J. C. Flannigan Grade 12-Adult. Science Research Associates. Test time 5½ hours.
7. General Aptitude Test Battery (GATB) - United States Employment Service. Test time 2½ hours.
8. Graflex Vocational Evaluation System - Singer Education and Training Products. 7 days to administer all tests.
9. Vocational Planning Inventory - Grades 11-12. Science Research Associates. Test time 2½ hours.

B. Vocational Interest Inventories - Interest inventories concentrate on the relationship of the individual to the world of work. These were developed to help counsel people in their vocational and educational decisions. There are two major questions that arise in making vocational plans which involve abilities and interests. These two constructs are not necessarily highly correlated. For persons to have maximum satisfaction in their vocations they should have the

appropriate abilities to carry out the requirements of the vocation plus an interest in the environment, relationships and type of work required. The two primary methods used to produce useful scales in interest inventories are internal consistency,or clustering of related items, and criterion keying based upon group comparisons. One of the earliest interest inventories was the Strong Vocational Interest Blank for men published in 1927. This assessment device selected items for occupational scales by comparing responses of successful men in a given occupation with those of men in general.

Recently there has been controversy relative to construction of interest measurements. Have the test questions been structured in a way to stereotype women's vocational roles based upon past history? This controversy has resulted in some interest inventories being restructured to eliminate sex bias. One of the more popular interest inventories was the Strong Vocational Blank which had separate forms for men and women. In 1974, David Campbell revised the SVIB by combining items from the two earlier forms for men and women, eliminating sex oriented items and dropping the Masculinity-Femininity scale. As will be noted later, not everyone thinks that the Strong-Campbell has eliminated sex discrimination relative to career planning and development. Based upon the emphasis in career planning and development, in our current society, it appears that interest inventories have a promising future in affluent counties for life planning. (Sundberg, 1977, pgs. 186-189)

Some of the better known interest inventories are listed as follows:

1. Brainard Occupational Preference Inventory - P.O.&R.F. Brainard. Grades 8-12. Psychological Corporation. Test time 30 minutes.
2. California Occupational Preference Survey (COPS) - R.R. Knapp and Lila Knapp. Grades 9-12. Educational and Industrial Testing Service. Test time - 40 minutes.
3. Career Assessment Inventory (CAI) - C. B. Johanson. Grade 8-Adult. National Computer Systems. Test time - 45 minutes.
4. Kuder General Interest Survey (Form E) - G. F. Kuder. Grades 7-12. Scientific Research Associates. Test time - 50 minutes.
5. Kuder Occupational Interest Survery (OIS-Form DD) - G. F. Kuder. Grades 9-12. Science Research Associates.
6. Kuder Preference Record and Interest Survery - G.F. Kuder. Three preference records plus the two surveys listed in items 4 and 5. Science Research Associates.
7. Minnesota Vocational Interest Inventory (MVII) - K. E. Clark. Males ages 15 to Adult. Psychological Corporation. Test time - 45 minutes.
8. Occupational Interest Inventory (OII) - E. A. Lee & L. P. Thorpe. Grades 7-Adult. California Test Bureau. Test time - 40 minutes.
9. Ohio Vocational Interest Inventory (OVIS) - A. G. D'Costa, D. W. Winefordner, J. G. Odgers and P. B. Koons, Jr. Grades 8-13. Harcort Brace Jovanovich. Test time - 1½ hours.
10. Strong-Campbell Interest Inventory (SCII) - E. K. Strong & D. P. Campbell. Grade 11-Adult. Stanford University Press. Test time 30-45 minutes.
11. Vocational Interest, Experience, and Skill Assessment (VIDSA) - Grades 8-12. Houghton Mifflin. Test time 45 minutes.

12. Vocational Preference Inventory (VPI) - J. L. Holland. Grade 9-Adult. Consulting Psychologists Press. Test time 30 minutes. This test has been considered a personality measure as well as an interest measure.

C. Career Maturity Measures - In developmentally oriented career theory, career maturity is a significant construct. By appropriate testing the counselor should be able to determine where the counselee is relative to the rate and progress of career maturity as compared to others of the same age or grade. Herr & Cramer (1979, pgs. 343-344) define career maturity "As the place reached on a continuum of career development from exploration to decline. Note that no current career maturity measure assesses any career-related maturational variables in the growth stage - that stage hypothesized to preceed the exploritory stage." Super (1974, pg 10) states that career maturity measures attempt to assess "the readyness of the individual to make decisions that are called for at a given decision point."

A number of assessment instruments designed to measure career maturity from adolescence to adulthood have been developed. The better known assessment instruments are listed below:

1. Adult Vocational Maturity Inventory (AVMI) - D. I. Sheppard. Male Adults.
2. Career Development Inventory: Form I (CDI) - D. E. Super, M. J. Bohn, D. J. Forrest, J. P. Jordaan, R. H. Lindeman & A. A. Thompson. Grades 8-12. Separate for males and females. Test time 30-40 minutes.
3. Career Development Inventory: Form 9-30 - D. E. Super & others. Adult population. Test time 15-30 minutes.
4. Career Maturity Inventory (CMI) - John O. Crites. Grades 6-13. Test time 20-30 minutes for attitude test and 2-2½ hours for competency test.
5. Cognitive Vocational Maturity Test (CVMT) - B. W. Westbrook. Grades 6-9. Test time 80-90 minutes.
6. Readyness for Career Planning (RCP) - W. E. Gribbons & P. R. Lohnes. Grades 8-10.

D. Work Values - Weinrach (1979, pg. 44) paraphrases Osipow and suggests that vocational psychologists have not been asking the right questions relevant to vocational preference and selection for the majority of the population. He suggests that the vocational counselor should be placing more emphasis on questions related to factors in the work situation which encourage work satisfaction and permit feelings of worth and human dignity. It is sobering that the connection between work and confirming ones worth as a human being has been severed for a large portion of our population. Even though it may be difficult to achieve a feeling of worth in many jobs today, it is important in career counseling to explore significant criteria that will have meaning for the individual. Weinrach (1979) proposes that criteria which the individual should examine relative to values include; salary, working conditions, job satisfaction, advantages and disadvantages, benefits, opportunity for advancement, social status, job related tasks, duties, demands, expectations, responsibilities and job entry requirements, Herr & Cramer (1979) point out that work values are sometimes confused with work interests but the two are distinctive domains measuring different variables.

Three assessment instruments designed to measure work values are (Herr & Cramer, 1979, pg. 346):

1. Hall Occupational Orientation Inventory (HOOI) - L. G. Hall. Grades 3-7, high school, college & handicapped adults. Scholastic Testing Service.
2. Survey of Work Values (SWV) - S. Wollack, J. G. Goodale, J. P. Wijting & P. C. Smith. Late adolescence-Adult.
3. Work Values Inventory (WVI) - D. E. Super. Grade 7-Adult. Test time 15 minutes.

.. Career Awareness, Knowledge and Attitudes - A number of other assessment instruments have been developed to assess attitudes and/or knowledge of individuals relative to career development. Some of these tests are norm-referenced and some are criterion-referenced. Most are content measurements (Herr & Cramer, 1979). The following assessment instruments may be grouped under this category:

1. ACT - Assessment of Career Development (ACD) - Grades 8-11. American College Testing Program. Test time 125 minutes.
2. BOX SCORE - S. N. Feingold, S. Swerdloff & J. E. Barber. Grades 7-11. Chronicle Guidance Publications. Test time 1 class period.
3. Career Decision-making - T. J. Harrington & A. J. O'Shea. Junior High-Adults. Chronical Guidance.
4. Comprehensive Career Assessment Scale (CCAS) - S. L. Jackson & P. M. Goulding. Grades 3-7, 8-12+ , teachers. Learning Concepts.
5. Olympus Career Education Needs Assessment Instrument - A. C. Blome & G. D. Rask. Grades K-3, 4-6, 7-12, teachers and administrators. Olympus Publishing.
6. Personal Career Development Profiles - B. Walter. Adolescent-Adult. Institute for Personality and Ability Testing.
7. Self-Directed Search (SDS) Form E - J. L. Holland. Grade 4-Adult. Consulting Psychologist Press. Test time 40 minutes.

F. Personality Tests - Personality tests are not normally given in career planning and development. There are some special cases, however, where in-depth counseling with a community college student could be assisted by administering one of the personality assessment instruments. There is some relationship between work values and personality traits. There are a large number of personality assessment instruments available. The SUNY Albany Test Library lists 89 personality tests. Five test which could be appropriate at the community college level are listed below:

1. Edwards Personal Preference Schedule (EPPS) - Psychological Corporation. MMY* 7-72.
2. Gordon's Personal Inventory - Psychological Corporation. MMY 6-103.
3. Minnesota Multiphasic Personality Inventory (MMPI) - Psychological Corporation. MMY 7-104.

* Buros' Mental Measurements Yearbook

4. Mooney Problem Checklist - Psychological Corporation. MMY 6-147.
5. Personality Research Form (PRF) - D. M. Jackson. Research Psychologist Press, Inc.

SELECTING ASSESSMENT INSTRUMENTS SUITABLE FOR CAREER PLANNING & DEVELOPMENT PROGRAMS AT TWO-YEAR COLLEGES

Herr & Cramer (1979) indicate that the selection of tests for counseling purposes should be consistent with the characteristics set forth in the 1974 American Psychological Association's Standards for Educational and Psychological Tests. This publication contains over 150 statements classified as essential, very desirable and desirable. These statements can be divided into the following nine areas; discrimination of information, direction for administration and scoring, validity, reliability and measurement error, choice or development of test methods, aids to interpretation, norms and scales, qualifications and concerns of users, administration and scoring, and interpretation of scores. There is some disagreement as to the degree that tests should be used in counseling but, in general, at least the Interest Inventories are used in two-year colleges. All but one of the 13 colleges surveyed during the course of this study used one or more assessment instruments. Most did not automatically give tests to all students in the college. If the college has a credit Career Planning Course, it is recommended that one or more of the tests discussed in the preceeding section be included as a part of the curriculum.

Selection of the proper test has also had a great deal of study. The wrong reason for using a specific test is one sometimes heard from a career counselor, "The test was here when I came to the college." The Counseling staff has an obligation to give serious thought to their objectives in testing, and which test(s) will best fit the objectives. The average size community college cannot afford to stock a large number of tests. Compromise may be necessary to select one or two tests from the categories indicated in the preceeding section.

Some have even advocated that the client participate in the selection of the assessment instrument. This does not make sense because the counselee will have had little or no training in assessment instruments and therefore could not bring knowledge to the selection process. Herr & Cramer (1979, pg. 335) "Recommend that tests be used programmatically and interpreted skillfully, using local norms when possible and, that the choice of tests and the point at which they are given be the responsibility of the counselor. In any specific case, this approach may be supplemented by an individualized approach to testing."

APTITUDE TESTS FOR TWO-YEAR COLLEGES

Shertzer, (1981, pg. 271) has this to say about aptitude tests. "Although a wide range of ability is represented in nearly every occupation, ability or aptitude remains a major factor in education and career choice. By itself, an ability or aptitude test score cannot furnish the final answer about the choice of one specific occupation or of a family of occupations. Ability test results

can be of considerable use in exploring occupations and in career planning. ...Ability test scores that are low, when compared to those needed in an occupation, gives some idea of the likelihood of failure." An important use of an aptitude test in a community college is to assist in determining remedial education which may be necessary if the student is to have the opportunity to satisfactorily complete a college curriculum.

The three aptitude tests which were selected for further discussion in this paper are listed below.

1. Differential Aptitude Tests (DAT) - See Appendix D for a detailed discussion of this test.
2. General Aptitude Test Battery (GATB) - See Appendix E for a detailed discussion of this test. This test may be appropriate for community college students since it is skewed to "blue-collar" jobs compatable with some of the college's certificate programs. None of the 13 colleges surveyed in this study utilized the GATB nor, insofar as is known, did they refer any of their students to the local State Employment Office for taking the GATB. This could be appropriate, particularly about two months prior to the student's completion of his college program. The Schenectady New York State Employment Service Office administers the GATB every other Friday morning by appointment. The results of this test battery are tied-in directly to the list of occupations in the Dictionary of Occupational Titles and further correlated with openings listed by the State Employment Office. This is, therefore, a potentially valuable resource which most colleges do not seem to be taking advantage of. It should also be noted that career counselors in colleges can be trained in administering the GATB, and it appears appropriate that where there is a very large segment of the student body who will be going into "blue-collar" jobs that this would be a desirable test battery to have in the Career Center repretoire. For additional information on the GATB see Anistasi (1976) and Herr & Cramer (1979).
3. Vocational Planning Inventory (VPI) - See Exhibit F for further information on this assessment instrument. Since this test predicts grade range in occupational training programs such as drafting and design, electronics and electrical, etc, it would be useful to administer to incoming students planning to enter curricula covered by the test. Refer to Herr & Cramer (1979, pg. 339) for additional information on this test.

INTEREST INVENTORIES USED IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS

Most of the 13 colleges surveyed in this study administered one or more interest inventories in their career planning program. Shertzer (1981, pg 163) suggests the following, "After taking an interest inventory, you can explore those occupations associated with your high interests, finding out what men and women do, how the occupation compares with other occupations, and what jobs there are in them on the unskilled, skilled and the professional levels. Your

vocational interests may change somewhat over the years. Research has shown that vocational interests do change, particularly between the ages of 15 and 20. Because of the possibility of change, you may want to take an interest inventory two or three times during college."

In a survey of 98 institutions in 1979, by the National Vocational Guidance Association, 90% offered interest inventories to their students. The most commonly listed tests were the Strong-Campbell Interest Inventory, Self-Directed Search and the Kuder Occupational Interest Survey (Goodson, 1982, pg. 232). Prediger (1980) indicates that there have been recent efforts to develop interest inventory items that capture the essence of work-related activity preference, while minimizing sex-role connotations.

Of the interest inventories listed earlier in this paper, the ones that were selected for further study include the following:

1. California Occupational Preference System (COPS) - See Appendix G for details on this assessment instrument. This interest inventory has been designed for professional and skilled, which can make it useful for the two-year college. For further references on this device see the following articles; Goodson (1982), Jones (1977), Norris (1976) and City College of San Francisco (1975).

2. Career Assessment Inventory (CAI) - See Appendix H for more details on this test. This instrument is aimed at sub-professional levels so is appropriate for the two-year college population. Dr. Susan Phillips of the SUNY Albany Counseling Faculty recommends this assessment instrument for community colleges. See Goodson (1982) for additional information on this device.

3. Kuder Occupational Interest Survey Form DD (KOIS) - See Appendix I for information on this assessment device. Other references include; Blaha (1979), Jones (1977), Anastasi (1976), Goodson (1982), Herr & Cramer (1979), Westbrook (1975), King & Bellezza (1970), O'Shea & Harrington (1971), Cole & Hanson (1971), and Goldman & Bicinanza (1971).

4. Strong-Campbell Interest Inventory (SCII) - See Appendix J for additional information on this inventory. For additional information see the following references; Anastasi (1976), Weinrach (1979), Goodson (1982), Jones (1977), Norris (1976), Herr & Cramer (1979), Greene (1975), Elliason (1979), Decker & Granzow (1978), Dungy (1978), Atanasoff & Slaney (1980), O'Neil, Price & Tracey (1977), Catron & Zultowski (1977), Cooper (1976), Lunneborg (1977) and Oliver (1977).

5. Vocational Preference Inventory (VPI) - See Appendix K for detailed information on this assessment instrument. This test is primarily for professional vocations and therefore would only be appropriate for four-year college transfer students. For additional information on the VPI see the following references; Weinrach (1979), Heer & Cramer (1979), Loesch & Sampson(1978), Wiggins & Moody (1981), Hountras (1973), Schmitz (1970), Cole & Hanson (1971), Smith (1977), and Oliver (1977).

CAREER MATURITY MEASURES USED IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS

Career Maturity Measures would be helpful for determining effectiveness of the credit career planning course. If this instrument is used at the beginning of the course and then repeated at the end of the course, it could indicate the possible extent that the course may have contributed to the career maturity of the student (Super & Thompson, 1979). Career maturity assessment instruments investigated in greater depth are summarized as follows:

1. Career Development Inventory (CDI) Form III - This test was jointly developed by D. E. Super, A. S. Thompson, R. H. Lindeman, J. P. Jordaan and R. A. Mayers. (Super & Thompson, 1979). Form III of the CDI includes a 191 item instrument yielding 6 scores as follows:
   - Scale 1 - Extent of Planning (30 items)
   - Scale 2 - Use and evaluation of resources in exploration (30 items)
   - Scale 3 - Career decision making (30 items)
   - Scale 4 - Career development information (30 items)
   - Scale 5 - World of work information (30 items)
   - Scale 6 - Information about preferred occupations (41 items).

This form is developmental in nature and much of the field testing has concentrated on 9th, 10th and 11th grade students in rural, suburban and urban Michigan. Developmental work to date indicates that male students score slightly higher on attitudinal scales and female students score slightly higher on cognitive scales. Non-college oriented students obtain lower average scores on all six scales. According to the authors, "The CDI has generally shown expected increases in scores on most, but not all, scales after participation in career education as well as differences between experimental (guidance) and control (no guidance)groups"(Super & Thompson, 1979).

2. Career Maturity Inventory (CMI) - For detailed information on this assessment instrument see Appendix L. Additional details on this test will be found in the following references; Blank (1978), Wiggins & Moody (1981), Goodson (1982), Prediger (1980), Herr & Cramer (1979) and Oliver (1977).

WORK VALUES ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAMS

According to Herr & Cramer (1979) "The (work) values that one holds are clearly a determinant of career choice; therefore, an objective measure of the hierarchical structure of those values provide an individual with important input data for career decision-making." It should be noted that work values should not be confused with work interests. The following two test devices intended to measure work values were reviewed in greater detail.

1. Hall Occupational Orientation Inventory (HOOI) - See Appendix M for details relative to this test. Also see Herr & Cramer (1979).
2. Work Values Inventory (WVI) - See Exhibit N for detailed information relative to this test. For additional information see the following; Anastasi (1976), Herr & Cramer (1979), and Borow & Hendrix (1974).

CAREER AWARENESS, KNOWLEDGE AND ATTITUDE ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGE FOR CAREER PLANNING AND DEVELOPMENT PROGRAMS

Two devices frequently used for determining career related awareness, knowledge and attitude are discussed below.

1. Harrington/O'Shea System for Career Decision-Making (CDM) - See Appendix O for details on this assessment device.

2. Self-Directed Search (SDS) - See Appendix P for details on this assessment instrument. The SDS is used extensively in the community college setting. It is self scored, as is the CDM above. Several studies have indicated that students frequently make errors in the scoring process with the result that conclusions regarding careers may be inconsistent with their answers. The SDS could be a useful tool in a career planning class where the career counselor could spend time first explaining Holland's typology. In my opinion the average student without some formal instruction is likely to miss the significance of the self-scoring process. I would, therefore, recommend that the counselor insure that each student using this assessment instrument thoroughly understand the Holland typology, and that the instrument is properly scored and interpreted. For additional information on the SDS refer to the following references; Norris (1976), Weinrach (1977), Wiggins & Moody (1981), Prediger (1980), Tuck & Keeling (1980), Hecht(1980), Prediger (1981), Holland (1982), Goodson (1982), Jones & DeVault (1979), Apanasoff & Slaney (1980), Reardon & Kahnweiler (1980), Haase, Winer, Glenn & Reed (1979), Talbot & Birk (1979), O'Neil, Price & Tracy (1977), Collins & Sedlacek (1972), O'Connell & Sedlacek (1971) and Kimball, Sedlacek & Brooks (1971).

PERSONALITY TESTS USED IN TWO-YEAR COLLEGES

It does not appear necessary to administer a personality test in a career planning and development program. In the SUNY Albany Counseling Curriculum for MS and Certificate of Advanced Study, the comprehensive exam on assessment instruments requires knowledge of the Jackson PRF, Form E. The counseling student must be able to discuss and interpret career development plans based upon the results of several assessment instruments, including the PRF. Appendix Q contains information and comments on the PRF. Also see Sundburg (1977, pg. 186).

PREPARING FOR TESTING

In order to secure uniformity of testing conditions, detailed directions for administering a standardized test are provided in the manual. These instructions should include the exact materials employed, time limits, oral instructions to subjects, preliminary demonstration, way of handling inquiries from the students, and every other detail of the testing situation. The examiner should arouse the subject's interest in the test so as to elicit the student's cooperation and ensure the student follows the standard test instructions. The examiner needs to recognize the importance of motivating the student to follow the instructions fully and as conscientiously as possible (Anastasi, 1976, pgs. 25, 34,35). It is possible to fake answers in an interest inventory, however, the student should be advised that this will serve no real purpose since the objective

of the inventory is to explore the student's own interests and occupations that draw on those interests (Shertzer, 1981, pg. 163). Some tests, such as the KOIS, have a special score which indicates the possibility that the student is faking answers or has misunderstood the instructions.

TEST INTERPRETATION

Lee (1975) indicates that the most important component of a test program is the presence of qualified personnel to interpret the test(s) administered. Lee also discusses a survey of career counselors who were asked to rank the most significant and essential items related to assessment instruments. Only two items were rated as essential, i.e. use of interest inventories and test interpretation by qualified personnel. Herr & Cramer (1979, pg. 336) discuss test interpretation as follows:

1. The student must feel the need for the test information. The counselor needs to assist students in seeing how the knowledge of test performance will be beneficial to them.
2. The counselor must interpret the student's questions in terms of some criterion of importance to the student.
3. It is not enough to have simple, accurate recall of test information. Some type of action is needed. The students will hopefully pursue one or more alternatives, indicated by the assessment instrument, in their career planning and development program.
4. The student should be given an opportunity to participate in the interpretation of the test results.
5. It is best to discuss low scholastic aptitude test scores on an individual basis.
6. If students have a reasonably accurate picture of themselves, before testing, they tend to learn more from the results of the test regardless of the interpretive technique.
7. The counselor must be especially careful in interpreting test results for minorities, handicapped, women and older workers.
8. Unless the counselor spends sufficient time with the student to ensure an understanding of the significance of the test results, the test experience could be frustrating to the student.

INTEGRATION OF ASSESSMENT INSTRUMENTS AND COMPUTERIZED CAREER GUIDANCE SYSTEMS

Interactive computer guidance systems are one of the most significant developments occuring in career planning and development field in the past five years. Some of these computer systems have, in effect, constructed their own interest inventories and work value tests so that students interact with the computer program to establish their interests and values. The following interactive computer systems have varying degrees of this type of capability.

1. Computerized Vocational Information System (CVIS) - This system uses Roe's two-dimentional classification system to divide occupations into eight interest

catagories and six levels based upon the amount of training required and degree of responsibility assumed by the worker. The student selects an interest category and a responsibility level and then the computer will list out appropriate occupations, define the occupations and provide descriptive information. (Herr & Cramer 1979, and Bush, 1975).

2. DISCOVER I - A computerized Career Guidance Program - This interactive computer system permits the student to indicate values, review strengths and weaknesses, etc. (Herr & Cramer, 1979, and Norris, 1976).

3. The Educational and Career Exploration System (ECES) - The student inserts profiles and self estimates on a variety of factors. These are used as points of reference so the student can explore tentative career preferences and then proceed through problem solving situations relative to occupation and educational orientation (Norris, 1976).

4. The Career Information System (CIS) - This interactive computer system was developed by the State of Oregon for career planning and development. The student inputs a number of items of information including occupational interests, physical abilities and other aptitudes. The user can then explore the occupations through interaction with the computer (Lee, 1975).

5. Occupational Information Access System (OIAS) - This interactive computer system provides a 25 item questionnaire to the student which then is used as a basis for occupational descriptions (Norris, 1976).

6. EUREKA - This system contains QUEST which is a vocational interest and aptitude test with a file of 228 occupations (Norris, 1976).

7. System for Interactive Guidance and Information (SIGI) - This computer system permits the student to examine ten occupational values and weighs the importance of each to the student. It also accepts specifications on five values at a time and lists occupations that meet the student's specifications. It evaluates occupations in terms of the rewards they offer and the risk of entrance. (Source: SIGI Information Bulletin, ETS Princeton, N. J.)

8. DISCOVER II - This is an extension to the original DISCOVER I interactive computer career guidance system. This system currently appears unique in that standardized test instrument scores may be inserted into the computer to form the basis of the career exploration process. The self-information module contains the on-line administration of the 90 items UNIACT (American College Testing Program, 1978). The computer scores the instrument, interprets it and recommends regions on the World of Work Map and a Holland code for further exploration. It also provides a list of potential occupations.

Other modules of DISCOVER II which utilize various types of assessment devices are as follows:

1. Assessment of Aptitudes - The user evaluates 14 aptitude areas on a 1-5 scale. These areas include leadership/management, arithmatic, mechanical, manual, reading, social, scientific, sales, language and

organizational. The computer then lists occupations which require user selected ranges and combinations of aptitudes.

2. Assessment of Work Values - The student enters the relative importance of 19 values developed by Donald E. Super in his recent Work Importance Study. The computer then provides a list of occupations which have potential to fulfill these values.

3. Interests - If the student has previously completed the UNIACT indicated above, the computer reviews the scores and provides a list of occupations. One of the unique features of this computer program is that the students can also enter scores from other interest inventories, e.g. Self-Directed Search, Ohio Vocational Interest Survey, The Strong-Campbell Interest Inventory and the Kuder. Again the computer identifies appropriate occupations.

4. Aptitudes - The student can enter scores from off-line administration of the Differential Aptitude Tests, the General Aptitude Test Battery, The Armed Services Vocational Aptitude Battery or the Career Planning Program. Using scale scores from these instruments the computer identifies occupations for which the user appears to have aptitudes. (Source: DISCOVER Foundation Inc. Publication, P. O. Box 363, Westminister, MD 21157)

The availability of DISCOVER II (as well as SIGI) on microcomputers makes these systems economically attractive for the two-year college. For additional information on this subject see a companion paper prepared by the author entitled, Career Planning and Development Programs for Two-Year Colleges, dated May 5, 1983.

RESULTS OF INTERVIEWS AND MAILED QUESTIONNAIRES RELATIVE TO ASSESSMENT INSTRUMENTS USED IN TWO-YEAR COLLEGES FOR CAREER PLANNING AND DEVELOPMENT

As indicated in the Preface of this paper, a survey was made of seven Albany Capital Area two-year colleges and a questionnaire was filled out by 6 colleges located in various parts of the United States. The questionnaire used in both the interviews and the mailed survey is contained in Exhibit R. Exhibit S is the interview summary for New York Capital District two-year colleges and Exhibit T contains a summary of the mailed questionnaire findings for two-year colleges.

Information obtained from the Albany Capital Area two-year colleges relative to their use of assessment instruments is summarized as follows:

Adirondack Community College, Glens Falls, N. Y. - This college uses both the Strong-Campbell Interest Inventory and the Harrington/O'Shea Career Decision Making Test. The counselor decides which students might benefit from either one or both of these instruments. It is estimated about 25% of the students will complete the SCII. At the conclusion of the first counseling session the student is given either the SCII, Harrington/O'Shea or both to take home for completion. At the second session the counselor will go over the results

of the test with the student. About one third as many Harrington/O'Shea's are administered as the SCII. The student is asked to self-score the Harrington/O'Shea. There is no charge to the student for taking either of these assessment instruments. The test results are used as a basis for career discussions with the student.

Junior College of Albany - This college uses the Strong-Campbell Interest Inventory and the Holland Self-Directed Search. Last year all freshmen were administered the SCII. Twenty to thirty percent of the freshmen came in for subsequent discussion relative to information contained in their computer report. It was estimated that about 40% of the students were administered the SDS. The SDS was administered on an individual basis where it appeared appropriate. Richard A Naylor indicated that he liked this instrument since it provided immediate results for subsequent discussion. There is no charge to the student for taking either of these tests. All full-time students also are required to take the SAT. This college also has a SIGI microcomputer system which they use in their Career Planning and Development Program.

Cobleskill College - This college also uses two assessment instruments, the Kuder Occupational Interest Survey and the Harrington/O'Shea. The Kuder is given first and then the student takes the Harrington/O'Shea and completes it at home. It was estimated that the Kuder had been used for about 9 years and the Harrington/O'Shea for 6 years. Either the counselor or the receptionist will administer the Kuder. It was estimated that 75 of each instrument are administered per year. There is no charge to the student for these tests. The decision on administering the assessment device is made by the counselor after a discussion with the student. If the counselor feels it may be helpful to the student in clarifying or facilitating the student's career planning goals, then the test(s) will be given. The results of each test is discussed individually with the student. The Holland SDS is also available and has been used in the past.

Columbia-Greene Community College - The primary assessment devices used are the Strong-Campbell and the Harrington/O'Shea. Other assessment devices which have been used occassionally include the following; Word and Number Assessment, COPS, CAPS, Career Assessment Inventory (CAI), and the Hall Occupational Orientation Inventory. It was indicated that one of the advantages of the Career Assessment Inventory is that it is designed for the non-professional, and the computer scoring sheet is very similar to that of the Strong-Campbell. It uses the Holland Typology as does the SCII. Scoring for both the SCII and CAI is done by Interpretive Scoring System, P.O. Box 1294, Minneapolis, MN 55440. A 3 credit-hour career development course is given at this college which includes, in Unit 2, identifications of values, aptitudes and abilities.

Hudson Valley Community College - Both the SCII and the Kuder Interest Inventory are given at the Counseling Center by appointment. About 400 tests per year are administered. In special cases the DAT, math or english is given to determine if the student needs remedial attention in these areas. For career planning the Chronical Guidance Publications Personal Profile for Occupational View-Deck is administered in the Counseling Office. This includes a Temperament Check List so students can determine which of the eleven listed temperaments they score the highest. The three highest temperaments (the largest number

of yes answers) are then used as a basis for determining a composite temperament to be entered on the student's personal profile form. On this same form the student records primary interest (obtained from cards 12-20) educational goals (cards 21-26), training program (cards 27-28), physical strength preferences (cards 29-32), physical limitations (cards 33-37), and work environment (cards 38-46). The student then places the Occupational View-Deck cards which he/she has sorted out and stacks them on a viewer. When the numerical master card is placed over the cards, occupations code numbers will appear which indicate possible occupations of interest. The counseling office also administers the College Level Examination Program (CLEP) for students interested in satisfying degree requirements through CLEP testing.

Maria College - Approximately 3% of the students are administered the Kuder. Decision to administer this test is made by Admissions Office, Academic Dean, Dean of Students or the Financial Aids Officer. This test is administered in the Career Placement Office at no charge to the student. Results of the test are discussed individually with the student. If a non-student is interested in enrolling in the college, but is not sure of what program would be of interest, then the Kuder will be administered for a charge of $10.

Schenectady County Community College - The three primary assessment instruments administered at the SCCC Counseling Office are the SCII, Kuder and Self-Directed Search. The College Major Card Sort, by William Dale Goodson, 1975 is also used during career discussions. Two years ago the ACT, including the career package was administered to all freshmen. Use of this package was not continued. In the fall of 1981, SCCC participated in a program to develop norms for the Harrington/O'Shea. About 200 students participated in this experiment. About 50% of the students who come in for career discussions are administered one or more of the SCII, Kuder or Self-Directed Search. There s no charge to students for these tests.

SCCC has also been part of the CETA/SUNY Career Development Network and has conducted a Career/Life Skills Center for disadvantaged persons. Various tests have been administered under this program, including the Nelson-Denny, the California Achievement Test (CAT), Tests of Adult Basic Education (TABE), the ADT/Media Systems Placement Examination for math and English, as well as, Gates-McKillop for English. These tests were used for diagnostic purposes to identify remedial education needs. The SDS is administered in the first unit of the Adkins Life/Skills Program as well as the Edwards Personal Preference Schedule (EPPS). It should be noted that the Career/Life Skills Center is not a part of the College's Counseling Office, but served only the CETA program.

In the Evening School of Continuing Education a separate Career Development Workshop is given. In the first session of this workshop the students take the SCII and in the third session the Tennessee Self Concept test. Results of the SCII are discussed in the third session and the Tennessee Self Concept test in the fourth of the ten session workshop.

Information obtained from the six two-year colleges who returned the mailed questionnaire is discussed in the following:

Anderson College, Anderson, S. C. - The two primary tests used for career

counseling are the Strong-Campbell Interest Inventory and the Edwards Personal Preference Schedule. The SCII is given to identify occupational interests and is administered on request. The EPPS is given to 100% of those who take the SCII. Both of these tests have been used for six years at this college. The EPPS is hand scored. The results of the two tests are always discussed individually with the student. There is no charge to the student for taking the tests. Both tests are administered at the Counseling Center. Several other instruments are used based upon the needs of the particular student. These include the Omnibus Personality Inventory (OPI), the Kuder Personal Preference Record, the 16 Personality Factor Questionnaire and the MAII.

Brewton-Parker College, Mt. Vernon, Ga. - This college uses the SCII and the Kuder. About 3% of the students take the SCII and 1% the Kuder. The SCII is administered in the Counseling Office and the Kuder in the Library. The SCII is computer scored and the Kuder hand scored. The results of the tests are individually discussed with the student. Test results are used for counseling and intervention strategy.

Greenville Technical College, Greenville, S. C. - The Strong-Campbell and the Career Assessment Inventory are used in this college's counseling program. The tests are administered each day by the career counselor at the Career Direction Center. About 95% of the students take one of these tests. Cost to the student is $2, the tests are computer scored and are discussed individually with the student. These tests have been used for about 2½ years. Aptitude tests are also used where appropriate. The South Carolina Occupational Information Computer System is also used as a part of Greenville Technical College's Career Planning and Development Program.

College X, Southwest - This unnamed college uses the Kuder, 16PF and SCII. The tests are administered four days and one night weekly at the Testing Center. About 28% of the students take these tests and there is a cost of $10 per student. The tests are computer scored and the results are individually discussed with the student. Test results are used in placement and counseling of the student.

Springfield College in Illinois, Springfield, Ill. - The SCII is the primary device used for career counseling. Seventy to Eighty percent of the students take the SCII. The test is administered as requested and is self-administered. There is no cost to the student and the results are individually discussed with the student. The counseling office is also involved in administering the College Board DTLS and the Nelson-Denny Reading test for acceptance and placement. About 25% of the students take one or more of these tests in the Reading Laboratory. Decision is made by the English Department and the Reading Department. These tests are hand scored and have been used for about 3 years.

Summary - Twelve out of the thirteen colleges surveyed use assessment instruments for career planning and development. Total number using these standard assessment devices are as follows:

Test	# Colleges Using
SCII	10
Kuder	6
SDS	3
Harrington/O'Shea	3
CAI	2
HOOI	1
COPS	1

RECOMMENDED ASSESSMENT INSTRUMENTS FOR USE IN A TWO-YEAR COLLEGE CAREER PLANNING AND DEVELOPMENT PROGRAM

Every couple of years a two-year college should review the various assessment instruments currently in use and determine whether they are still the best devices to meet their current needs. There should be a proper balance between the benefits accruing to the student as a result of taking the assessment instrument, counselor's time devoted to administration/interpretation of the test, and cost. It is undesirable to administer an assessment instrument to a student unless the counselor will have sufficient time to properly interpret the test results, discuss implications of test results with the student and hopefully motivate the student to action e.g. additional career exploration, change of curriculum, selection of a four-year college consistent with career plans, selection of an occupation compatible with the student's interests, aptitudes, work values, etc.

If the two-year college has a credit Career Planning and Development class, the assessment instrument(s) should be integrated into this course so as to achieve maximum benefit to the student and effective use of the counselor's time. The assessment instrument(s) should be considered in developing the course schedule so it/they can be administered and discussed at the appropriate point in the course. The objective of the course should be to facilitate the student's career palnning and development process, rather than make the student an expert in career development theory. The course should be limited to one of the various Career Classification Systems, i.e. Holland, Roe, U.S. Employment Service, etc. The assessment instrument(s) used should be compatable with the career development theory and personality types discussed in the course. It is inappropriate to teach the Holland typeology and then use an assessment instrument compatable with Roe's occupational classification system or vice versa. A two-year college student has enough problems and questions without presenting material which seemingly is inconsistent. It is also believed that the career counselor should resist the "easy way out" by administering self-scoring instruments which may be scored incorrectly by students When a self-scoring instrument, such as the SDS or Harrington/O'Shea, is used the counselor has an obligation to carefully check the results to insure that the student has not made errors that will give misleading results.

For a medium sized two-year college of about 1000 to 2000 students, it is proposed that the following assessment instruments are compatable and should be available as deemed appropriate by the counselor. It is also believed that this type of college should have an optional 3 credit hour Career Planning and Development course incorporating assessment instruments.

Using the same assessment instrument classifications contained in the early part of this paper, one or more tests listed below should be used in the career planning and development process.

1. Aptitude Test - An aptitude test would be primarily for diagnostic purposes to assist in remedial education for those students who did not have the necessary skills for completing the curriculum. I would recommend the Differential Aptitude Tests (DAT) be included in the Career Center repertoire. One or more of the various tests in this battery would be administered depending on need. See Appendix D. I would not plan to use the DAT Career Planning Report.

2. Interest Inventory - I recommend the Strong-Campbell Interest Inventory (SCII) for those students who plan to transfer to a four-year college. The Career Assessment Inventory (CAI) would be administered to students in a terminal program. The advantages of using these two tests is that they are both based upon Holland's typology, and computer printouts from Interpretive Scoring Systems have a consistent structure. One or the other of these two tests would be the basic assessment instrument used in the three credit hour Career Planning and Development course. In the event that a student was undecided, relative to transferring to a four-year college, then depending upon discussion with the counselor, both of these instruments might be administered. This could provide more insight into the student's interests and could help crystalize the student's thinking relative to a career plan.

3. Career Maturity - It is not clear that a two-year college needs a standard test in this catagory. If such a device appears desirable, Super's Development Inventory Form 3 has merit. Additional validation of this instrument is needed before I would regularly include it in the Career Planning and Development course.

4. Work Values - Currently I do not think that the two-year college needs to include an instrument in work values except for special cases. In a Career Planning and Development course, values will necessarily be discussed. In addition, if one of the interactive microcomputer guidance systems is used e.g. DISCOVER II or SIGI, work values are contained in these modules. As a back up, however, it would be worth experimenting with Super's Work Values Inventory (WVI) to determine its usefulness.

5. Career Awareness, Knowledge and Attitude - As discussed earlier, both Holland's SDS and the Harrington/O'Shea are used in about 25% of the colleges surveyed. Although the manual states that the Harrington/O'Shea

is based upon Holland's typology, some of the personality types differ from Holland's nomenclature. Therefore, I prefer the Self-Directed Search. This device could be used in the Career Planning and Development class as a learning tool to assist in teaching students Holland's typology. It would be necessary to check each student's self-scoring to ensure accuracy and understanding, otherwise, the student could arrive at erroneous conclusions. The counselor should also be sensitive to John O. Crites' criticism relative to the inadequacies of the scoring logic as discussed in Appendix P, and make appropriate adjustments to compensate for these shortcomings. One benefit of the SDS (or Harrington/O'Shea) is that the self-scoring feature permits the student to both complete the instrument and score it prior to the next class session. The SCII or CAI requires computer scoring and therefore would not generally be available at the next class session.

6. Personality Test - Although the Holland Vocational Preference Inventory (VPI) was included in the interest inventories, there is some disagreement as to whether it is an interest measure or a personality measure. A two-year college would not normally need to administer a personality test, but the Vocational Preferance Inventory (VPI), Appendix K, could be used experimentally for this purpose. My own experience with the Jackson Personality Research Form E (PRF) leads me to believe that it could be more helpful than the many others available. I would therefore have this assessment instrument available to administer on a need basis.

CONCLUSION

Assessment instruments play an important role in the two-year college Career Planning and Development process. The importance of these devices indicates that considerable thought and planning is necessary to ensure the optimum instruments for the particular college. Too many instruments should not be used as they can fragment the resources of the career planning process. The selected instruments should be compatable and form a building block approach. The linchpin of Career Planning and Development program should be a three credit hour course utilizing at least an interest inventory. Two-year colleges have a special challenge because some of their students will enter the world of work upon completing the two-year program, whereas others will transfer to a four-year college. The interest inventory to be given a specific student should take this into account. One of the new microcomputer interactive career guidance systems should also become a part of the Career Planning and Development process as a module in the three credit hour Career Planning Development course. Both the DISCOVER II and SIGI systems incorporate value packages as well as career exploration, and should be valuable to the students.

The career counselor has a major responsibility to each student taking an assessment instrument to make sure that the test results are properly

interpreted and understood by the student. The student must be the one to make the career decision, but the counselor needs to ensure that the student has the needed information and structured approach to arrive at a carefully considered and logical decision.

REFERENCES

American Psychological Association. Standards for educational and psychological tests. Washington, D.C.: APA, 1974.

Anastasi, Anne, Psychological Testing, 4th Edition, 1976, MacMillan Publishing Co., Inc. 866 Third Ave. New York, N. Y. 10022.

Atanasoff, G. E., Slaney, R. B.,"Three Approaches to Counselor - Free Career Exploration Among College Women", Journal of Counseling Psychology; V27 N4 P332-38 July 1980.

Blaha, Marjorie, "Planning and Implementation of the Transition to Technology Program" A one-Semester, nine-hour per week, team-taught interdisciplinary program at Evergreen Valley College, San Jose, California, 1979

Blank, Jeff R., "Jobs-Career Key: A Test of Occupational Information", The Vocational Guidance Quarterly; Sept. 1978, pgs. 6-17.

Borow, Henry; Hendrix, V. L., "Environmental Differentials of Occupational Programs and Educational Career Patterns in Public Junior Colleges." Univ. of Minnesota, Minneapolis, Minn. 345 pages, November 1974.

Buros, Oscar Krisen, The Seventh Mental Measurements Yearbook, The Gryphon Press, Highland Park, New Jersey, 1972.

Buros, Oscar Krisen, The Eighth Mental Measurements Yearbook, The Gryphon Press, Highland Park, New Jersey, 1978.

Bush, James E., Oakton Community College Computerized Vocational Information System, Feb. 4, 1975, 12 pgs. Oakton Community College, Morton Grove, Ill.

Catron, D. W., Zultowski, W. H., "Strong-Campbell General Occupational Themes: Profiles of Four Academic Divisions." Measurement and Evaluation in Guidance; V 10 N1 P38-43. Apr. 1977.

City College of San Francisco, Office of Testing & Research, "Measured Aptitudes vs Self-Rating in Identifying Occupations" 1975.

Cole, Nancy S., Hanson, Gary R., "An Analysis of the Structure of Vocational Interests", Journal of Counseling Psychology, 1971, September, Vol. 18(5), pgs. 478-486.

Collins, Anne M., Sedlacek, William E., "Comparison of Satisfied and Dissatisfied Users of Holland's Self-Directed Search." Journal of Counseling Psychology; Vol. 19 No. 5. Sept. 1972.

Cooper, Jacqueline F., "Comparative Impact of the SCII and the Vocational Card Sort on Career Salience and Career Exploration of Women." Journal of Counseling Psychology; Vol. 23, No. 4, pgs. 348-352. July 1976.

Decker, Don; Granzow, J. R., "Native American Summer Bridge Program (Yavapai College, Prescott, Arizona, June 4-July 11, 1978)" 1978.

Dictionary of Occupational Titles (Fourth edition), a U.S. Department of Labor publication.

DISCOVER II - A Computer-Based Career Guidance System for microcomputers and mini-computers. Discover Foundation, Inc. P. O. Box 363, Westminster, Maryland 21157. 7 pgs.

Dungy, Gwen; and others, "Career Research--A Multi-Discipline Approach", Community College Frontiers; Vol. 7, No. 1, Pgs. 15-19, Fall 1978.

Eliason, Carol, "Equity Counseling for Community College Women", Center For Women's Opportunities, American Association of Community and Junior Colleges, One DuPont Circle N.W. , Washington, D.C. 20036, 1979, 291 pages.

Goldman, B. A., Vicinanza, P., "A Scoring System for Measuring College Interest With the Kuder Occupational Interest Survey, Form DD." Journal of Educational Research. 1971, November, Vol. 65, No. 3, pgs. 101-102.

Goodson, William D., "Status of Career Programs on College and University Campuses", The Vocational Guidance Quarterly; Vol. 30, No. 3, Pgs. 230-235, March 1982

Green, Sylvia N., "A General Departmental Outline for Career Guidance and a Specific Outline for a Basic Career Planning Course at Pasadena City College", June 1975, 32 pgs., ERIC File Ed1 12978.

Haase, R. F., Winer, J. L., Glenn, C. M., Reed, C. F., "Maximizing the validity of Holland's Classification System", 9 pages, A Paper presented at the annual meeting of the American Psychological Association, Sept. 1, 1979.

Hecht, A. B., "Nursing Career Choice and Holland's Theory: Are Men and Blacks Different?", Journal of Vocational Behavior, Vol. 16, No. 2, pgs. 208-211 April 1980.

Herr, E. L., Cramer, S. H., Career Guidance Through the Life Span, 1979, Little, Brown and Co., Boston, Mass.

Holland, J. L., "The SDS Helps Both Females and Males: A Comment," The Vocational Guidance Quarterly, Vol. 30, No. 3, Pgs. 195-197, March 1982.

Hountras, Peter T. "Relationships Between SVIB Nonoccupational Scales and Achievement for Six Holland Personality Types." , Journal of Vocational Behavior, Vol. 3, No. 2, Pgs. 195-208, April 1973.

Jones, Mary Ann D., "Recommendations for Developing Career Centers" 1977, Los Angeles Community College District, California Division of Educational Planning and Development, 34 pgs.

Jones, Lawrence K., "Holland's Typology and the New Guide for Occupational Exploration: Bridging the Gap", The Vocational Guidance Quarterly, pgs. 70-75, September 1980.

Jones, Lawrence K., DeVault, Robert M., "Evaluation of a Self-Guided Career Exploration System: The Occu-Sort", The School Counselor, Vol. 26, No. 5, Pgs. 334-341, May 1979.

Kimball, R. L., Sedlacek, W. E., Brooks, G. C, Jr., "Black and White Vocational Interests on Holland's Self Directed Search", 11 pages, Cultural Study Center, Office of Vice Chancellor for Student Affairs, University of Maryland, College Park, Maryland. 1971.

King, L. A., Bellezza, F., "A Comparison of Two Vocational Interest Tests Used with General College Students", General College Studies, Vol. 6, No. 3, 9 pgs. 3 Questionnaires, 1970.

Lee, Beth S., "Career Guidance in a Public Community College: Towards a Model", 1975, 230 pgs. Ed. D. Dissertation, Nova, Utah. ERIC File Ed1 51034.

Lennon, Roger T., "Selection and Provision of Testing Materials", Originally presented as part of Greater Cleveland Research Council--American Testbook Publishers Institute Joint Conference on "Instructional Materials in the Demanding '60s." December 1-2, 1961. Harcourt Brace Javanovich, Inc.

Loesch, L. C., Sampson, J. P., Jr., "Job Knowledge and Vocational Preferences", The Vocational Guidance Quarterly, Sept. 1978, pgs. 55-60.

Lunneborg, Patricia W., "Construct Validity of the Strong-Campbell Interest Inventory and the Vocational Interest Inventory Among College Counseling Clients", Journal of Vocational Behavior, Vol. 10, No. 2, pgs. 187-195, 1977.

McClain, R. S., "The Rationale and Strategy for Serving Mature Women Returning to Higher Education", June 3, 1977, 121 pgs., Doctorial Thesis, University of MA ERIC File Ed1 79146.

Norris, Jim, "Community College Career Counseling and Computer Use", Sabbatical Report, Spring 1976, 58 pgs., November 1976, El Comino College, Via Torrance, CA.

O'Connell, T. J., Sedlacek, W. E., "The Reliability of Holland's Self Directed Search for Educational and Vocational Planning", 11 pgs. Counseling Center, University of Maryland, College Park, MD 1971.

Oliver, Laurel W., "Evaluating Career Counseling Outcome for Three Modes of Test Interpretation." Measurement & Evaluation in Guidance, Vol. 10, No. 3, Pgs. 153-161, October 1977

O'Neil, James M., Price, Garry E., Tracey, Terrance J., "The Stimulus Value, Treatment Effects, and Sex Differences when Completing Two Interest Inventories at the University of Kansas", 18 pgs, Counseling Center, Division of Student Affairs, University of Kansas, Laurence, Kansas, 1977.

O'Shea, A. J., Harrington, T. F., "Using the Strong Vocational Interest Blank and the Kuder Occupational Interest Survey, Form DD with the Same Clients", Journal of Counseling Psychology, Vol. 18, No. 1, Pgs. 44-40, Jan. 1971.

Osipow, S. H., Theories of Career Development, second edition, 1973, Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Peterson's Annual Guide to Undergraduate Study 1982, Peterson's Guides, P.O. Box 2133, Princeton, N. J. 08540, 1981, $13.

Prediger, D. J.,"The Determination of Holland Types Characterizing Occupational Groups." Journal of Vocational Behavior, Vol. 16, No. 1, pgs. 33-42, Feb. 1980.

Prediger, D. J., "A Note on Self-Directed Search Validity for Females," The Vocational Guidance Quarterly, Vol. 30, No. 2, pgs. 117-129, Dec. 1981.

Ratcliff, J. L., "Job Development: What it is and How to do it. A Report of the National Dissemination Project for Post-Secondary Education", June 1974, 26 pgs., Washington State Board for Community College Education, Seattle, Research and Planning Office. ERIC File No. EDO 92186.

Reardon, Robert, Kahnweiler, William, "Comparison of Pencil-and-Paper and Tactile-Board forms of the Self-Directed Search," Journal of Counseling Psychology; Vol. 27, No. 4, Pgs. 328-330, July 1980.

SIGI Information Bulletin, A Computer-based System of Interactive Guidance & Information, written by Martin R. Katz, Educational Testing Service, Princeton, N. J. 08541.

Smith, Phyllis J., "Comparison of Counselees and Noncounselees with Reference to Holland's Theory", Journal of Counseling Psychology, May 1977, Vol. 24, No. 3, pgs. 244-246.

Southern Regional Educational Board, "Lateral and Vertical Student Mobility: An Essential for the Community College", 1977, 130 Sixth St. N.W., Atlanta, Ga. 30313, ($1).

Sundberg, Norman D., Assessment of Persons, 1977, Prentice-Hall, Inc., Englewood Cliffs, N. J. 07632.

Super, D. E.,"Vocational Maturity: Toward Implementing A Psychology of Careers in Career Education and Guidance." Chapter 1 in D. E. Super (Ed.), Measuring Vocational Maturity for Counseling and Evaluation. Washington, D.C.: American Personnel and Guidance Association, 1974, 9-21.

Super, D. E., Thompson, A. S., "A Six-Scale, Two-Factor Measure of Adolescent Career or Vocational Maturity", The Vocational Guidance Quarterly, Vol. 28, No. 1, pgs. 6-15, Sept. 1979.

Talbot, Deborah B., Birk, Janice M., "Does the Vocational Exploration and Insight Kit Equal the Sum of its Parts? A Comparison Study", Journal of Counseling Psychology; Vol. 26, No. 4, Pgs. 359-62, July 1979.

Tuck, B. F., Keeling, B., "Sex and Cultural Differences in the Factorial Structure of the Self-Directed Search", Journal of Vocational Behavior, Feb. 1980, Vol. 16, No. 1, pgs. 105-113.

Turner, Carol J., "Systematic Decision-Making by Career Counselors", The Vocational Guidance Quarterly, June 1979, pgs. 341-349.

Weinrach, S. G., Career Counseling, Theoretical and Practical Perspectives, 1979, McGraw-Hill Book Co., New York, N. Y.

Westbrook, F. D., "High Interest Scales on the Strong Vocational Interest Blank and the Kuder Occupational Interest Survey Using Holland's Occupational Codes." Research Report No. 1-75. 11 pgs. Counseling Center, University of Maryland, College Park, Maryland, 1975.

Wiggins, J. D., Moody, A., "A Field-based Comparison of Four Career-Exploration Approaches", The Vocational Guidance Quarterly, Sept. 1981, pgs. 15-20.

HOLLAND'S PERSONAL ORIENTATIONS (LIFE STYLES), Or Preferred Approaches to Life Situations

(1) Realistic people are characterized by competitive/assertive behavior and by interest in activities that require motor coordination, skill, and physical strength. People oriented toward this role prefer situations involving "action solutions" rather than tasks involving verbal or interpersonal skills. They like to take a concrete approach to problem-solving rather than relying on abstract theory. They tend to be interested in scientific or mechanical rather than cultural and aesthetic areas.

(2) Investigative persons prefer to think rather than to act, to organize and understand rather than to persuade. They are not apt to be too "people oriented."

(3) Social people seem to satisfy their needs in a teaching or helping situation. In contrast to investigative and realistic people, social types are drawn more to seek close interpersonal relationships and are less apt to engage in intellectual or extensive physical activity.

(4) Conventional people don't mind rules and regulations and emphasize self-control. They prefer structure and order to ambiguity in work and inter-personal situations. They place value on prestige or status.

(5) Enterprising people are verbally skilled and use this skill in persuasion rather than support of others. They also value prestige and status and are more apt to pursue it than conventional people.

Based on John L. Holland's MAKING VOCATIONAL CHOICES: A THEORY OF CAREERS (Englewood Cliffs, N.J.: Prentice Hall, 1973).

(6) Artistic people value self-expression and relations with others through artistic expression. They dislike structure, prefer tasks involving personal or physical skills, and are more prone to expression of emotion than others. They are like investigative people but are more interested in the cultural-aesthetic than the scientific.

Holland developed his theory on the basis of the following four assumptions:

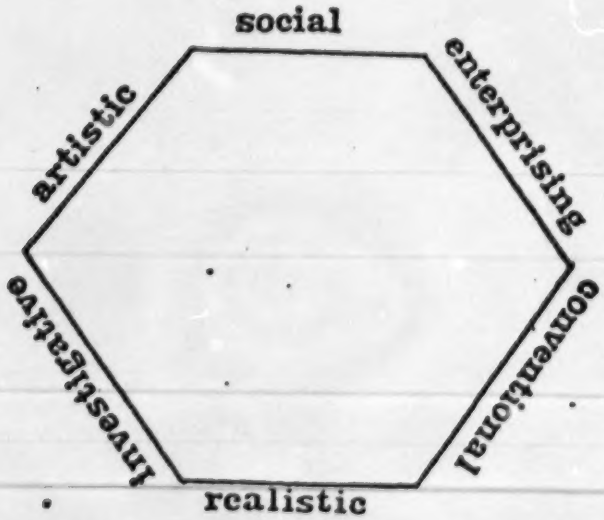
1. In our culture, most persons can be categorized as one of six types: realistic, investigative, artistic, social, enterprising, or conventional.

2. There are six kinds of environments: realistic, investigative, artistic, social, enterprising, and conventional.

3. People search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles.

4. A person's behavior is determined by an interaction between his personality and the characteristics of his environment.

It would indeed be rare to find any one person or environment which is exclusively one type. The degree to which a person or environment can be clearly defined as a particular type varies. In fact, the characteristics of a person or environment can usually be most accurately described as a combination of two or three prominent types. Of the six types, some are more closely related than others and are more likely to appear together in a particular person or environment. For example, realistic types are more closely related to investigative types than to social types.



Each type is most similar to those types closest to it on the hexagon and least similar to the type opposite it on the hexagon. Persons whose prominent types are in close proximity on the hexagon are usually more predictable, since their patterns are more consistent than those whose types are at opposite points on the hexagon.

According to Holland's theory, a person operates best in an environment that has characteristics similar to his or her orientation. For example, a person having predominantly artistic characteristics can work effectively in an artistic environment, but would have difficulty operating in a conventional environment. In other words, an artist would feel very restricted in the role and environment of an accountant. The important point is that you need to be familiar with work environments as well as your own interests before entering any given occupation.

Appendix B-1

Comparison of USDL, Roe and Holland Occupation Classification Systems

USDL Interest Areas and Occupational Groups	Roe Occupational Groups	Holland Occupational Codes
01. Artistic		
01.01 Literary	Arts & Entertainment	Artistic
01.02 Visual Arts	"	"
01.03 Performing Arts: Drama	"	"
01.04 Performing Arts: Music	"	"
01.05 Performing Arts: Dance	"	"
01.06 Craft Arts	"	"
01.07 Elemental Arts	"	"
01.08 Modeling	"	"
02. Scientific		
02.01 Physical Sciences	Science	Investigative
02.02 Life Sciences	"	"
02.03 Medical Sciences	"	"
02.04 Laboratory Technology	"	"
	"	"
03. Plants and Animals		
03.01 Managerial Work	Organization	Realistic
03.02 General Supervision	"	"
03.03 Animal Training & Service	Outdoor	"
03.04 Elemental Work	Organization	"
04. Protective		
04.01 Safety & Law Enforcement	Service	Realistic
04.02 Security Services	"	"
05. Mechanical		
05.01 Engineering	Technology	Realistic-Investigative
05.02 Managerial Work	Organization	Enterprising-Realistic
05.03 Engineering Technology	Technology	Realistic
05.04 Air & Water Vehical Oper.	"	"
05.05 Craft Technology	"	"
05.06 Systems Operation	"	"
05.07 Quality Control	"	"
05.08 Land Vehical Operation	"	"
05.09 Materials Control	"	"
05.10 Crafts	"	"
05.11 Equipment Operation	"	"
05.12 Elemental Work	Organization	"
06. Industrial		
06.01 Production Technology	Technology	Realistic
06.02 Production Work	"	"
06.03 Quality Control	"	"
06.04 Elemental Work	Organization	"

07. Business Detail		
07.01 Administrative Detail	Organization	Conventional
07.02 Mathematical Detail	"	"
07.03 Financial Detail	"	"
07.04 Oral Communications	General Culture	"
07.05 Records Processing	Orgainzation	"
07.06 Clerical Machine Operation	"	"
07.07 Clerical Handling	"	"
08. Selling		
08.01 Sales Technology	Business Contact	Enterprising
08.02 General Sales	" "	"
08.03 Vending	" "	"
09. Accommodating		
09.01 Hospitality Services	Service	Social-Realistic
09.02 Barbering & Beauty Service	"	" "
09.03 Passenger Services	"	Social
09.04 Customer Services	"	Realistic
09.05 Attendant Services	"	Realistic-Social
10. Humanitarian		
10.01 Social Services	Service	Social
10.02 Nursing, Therapy, and Specialized Teaching Services	General Culture	Social
10.03 Child and Adult Care	Service	"
11. Leading-Influencing	General Culture	Investigative
11.01 Mathematics and Statistics	Organization	Social
11.02 Educational & Library Services	"	Social
11.03 Social Research	Science	Enterprising
11.04 Law	General Culture	Enterprising-Social
11.05 Business Administration	Organization	Enterprising
11.06 Finance	"	Enterprising
11.07 Services Administration	"	Artistic
11.08 Communications	General Culture	Enterprising
11.09 Promotion	Business Contact	Social
11.10 Regulations Enforcement	Organization	Enterprising
11.11 Business Management	"	"
11.12 Contracts and Claims	"	"
12. Physical Performing		
12.01 Sports	Outdoor	Social
12.02 Physical Feats	"	Artistic

Source: Jones (1980) for USDL & Holland Occupational Codes. Herr (1979) for Roe

PROFESSIONAL CAREER DEVELOPMENT PROGRAM WITH EVALUATION by McClain (1977)

Program Name:	Self-Guided Career Counseling	Career Search	Directions for Change
Author/ developer:	Kathleen Hart Broad	Elwood N. Chapman	Sylvia Walworth, Jane Goodman, Career Development Counselors, Continuum Cntr.
Publisher:	Everywoman's Center University of Massachusetts, Amherst, MA 01002 June 1976	Science Research Associates, Inc Chicago, 1976	Continuum Center for Adult Counseling & Leadership Training Division Continuing Ed., Oakland University, Rochester, Mich.
Target Population:	Women; no age range specified by author; seems appropriate for upper high school age women (lowest limit) with no upper age limit.	No specific population specified by author. Field studies on 2 & 4 year college populations. Sex-free.	Sex-free-men or women; no age range specified. Seems appropriate for those twenty-two on upward.
Program Goal(s)	Self-guided career counseling; to provide an opportunity for personal awareness; methods for the job search (the process of finding a job and getting hired), occupational info.	To make the career search process simple using a step by step approach; use a process of internal and external exploration; and provide a program to motivate the use of resources: people publications and career centers.	Enable a person to become more self-directed in exploring careers.
Recommended Testing Instruments:	None	Interest Inventory: Value Surveys, Personality Surveys, Aptitude Tests, Achievement Tests. Lists examples of each.	None
Activities:	Series of exercises to encourage self-exploration; some original, others adapted from other sources, McCann and Rumpf, Bolles, information sources and specific examples.	Series of activities (programmed style) information, inclusion of tests, counseling, use of resources (career centers).	Series of exercises to encourage self-exploration, some original; mostly adapted from other sources: Holland, Simon, Catalyst, C.E.E.B.

Appendix C-2

PROFESSIONAL CAREER DEVELOPMENT PROGRAM WITH EVALUATION by McClain (1977)

Program Name:	Decisions and Outcomes	How to Decide: A Guide for Women	The Career Guidance Class
Author/ developer:	H. B. Golatt, Barbara Varenhorst, Richard Carey & Gordon P. Miller	Nelle Tumlin Scholz, Judith Sesebee Prince, Gordon Porter Miller	Jeff Ferguson
Publisher:	College Entrance Examination Board New York, 1973	College Entrance Examination Board New York, 1975	Walter T. Metcalf and Associates Camarillo, California 93010, 1974
Target Population:	Intended for upper grade high school students, college students and adults. Heavy sex bias toward male, though no mention of sex intended population.	Women of all ages, particularly women who want to return to work or school.	High school students, college students and adults (ages 16 and up)
Program Goal(s):	Learning decision-making skills in order to apply them to personal problems, educational options, or career opportunities.	Designed to meet women's changing needs by increasing their decision-making ability and by helping them apply decision making to planning their lives in a world of broadening opportunities. To make women aware of the broader concept of women's roles.	Exploring career choice in a group setting.
Recommended Testing Instruments:	None	None	Self-Directed Search Work values inventory
Activities:	Student Workbook: series of exercises, information, examples, easy examples, non-specific resources. Leaders Manual: Additional exercises, on-going evaluations, information and examples.	Exercises, case studies to evaluate information, information sources, examples.	Group directed--verbal and written exercises, tests, career center visits, filmstrips.

Appendix C-3

PROFESSIONAL CAREER DEVELOPMENT PROGRAM WITH EVALUATION by McClain (1977)

Program Name:	Modular Life Planning/Career Development Program (MLP/CDP)	The Art of Career Development	Where Do I Go From Here With My Life?
Author(s)/ developer:	Marcia C. McCann & Teri Rumpf	Robert R. Carkhuff & Theodore W. Friel	John C. Crystal, Richard N. Bolles
Publisher:	Everywoman's Center University of Massachusetts Amherst, Mass. 01002, 1974	Human Resource Development Press Box 222 Amherst, Mass. 01002, 1974	The Seabury Press New York, New York 10017
Target Population:	Adult women	No age range or sex specified by authors. Suggests it can be used with students in regular education settings, i.e. career development along with other educational curricula; counselors for use individually or in group guidance settings; and for parents use with their children.	People-ages 16 to 86, who need to choose a career; are changing a career; unemployed and want to find employment; want an education in life planning or improvement in self-confidence and/or decision-making ability.
Program Goal(s):	To increase women's understanding of themselves as women and as workers.	To teach career development skills as a basis for life development.	Intended to teach the process involved in career development and "hopefully" makes that skill transferable to "life planning".
Recommended Testing Instruments:	Super: Work Values Inventory	None	None
Activities:	Series of modules (planned exercises, inventories) separate, but coordinated. May be used in ordered outline as leaders manual indicates or segments to meet individual needs; measurement instruments and other resources.	Programmed workbook, series of exercises and information that systematically breaksdown each aspect of career development.	Programmed workbook and accompanying text. Exercises and information necessary for each aspect of career development. Note: Author rated this program excellent.

Name of Test: Differential Aptitude Tests (DAT)

Author: George K. Bennett, Harold G. Seashore & Alexander G. Wesman

Publisher: Psychological Corp.

Year: 1947-1974

Type of Instrument: Aptitude Test

Age Level: Grades 8-12 and adults

Test Content: Eight tests in battery. Booklet One measures verbal reasoning, numerical ability, abstract reasoning, clerical speed and accuracy. Booklet Two measures mechanical reasoning, space relations, spelling and grammer. Also separate tests and all eight in one book. A composite of verbal plus the numerical scores are used as a verbal I.Q. Multiple choice except spelling which is right or wrong. Also a DAT career planning report consisting of nine parts which evaluates and partially refines the student's career planning progress. The questionnaire indicates student's liking for school subjects and activities, educational and vocational goals and interests in different fields of work and representative occupations.

Test Time: Tests require from 6 to 30 minutes each. Total test time is 181 minutes.

Type Scoring: Hand and computer scored.

Type Population: Norms given in percentiles and stanines for grades 8 thru 12 for each of the eight tests plus combined verbal reasoning plus numerical ability tests. No adult norms.

Comments on Tests: "Essentials of Psychological Testing , Third Edition, Lee J. Cronbach Harger and Roy, New York, Page 353. "The DAT tests measure complex abilities that have a direct relation to job, families and curricula." Buros' Mental Measurement Yearbook", Seventh Edition, Volume II, Page 673 -"Best available instrument of its kind. It has a substantial degree of inessential duplication of time, effort and expense. It does not achieve the objective of a differential instrument, but it has better chances of obtaining an acceptable level of differential efficiency than any other comparable battery." Buros' Mental Measurement Yearbook, Eighth Edition, Volume I, Page 485 - "The format of the new S&T Forms is superb. For norms, school districts were selected by a stratified random sampling based on school enrollment and community social ecomonic level which is preferable to geographic region. The reliability data for forms S&T are much less complete than one would expect of a major battery." Page 485 - "The career planning questionnaire consists of nine parts. The career planning questionnaire evaluates and partially refines the students career planning progress. The DAT appears better than the GATB and ASVAB as a guidance aide to counselors for career counseling."

Name of Test: The General Aptitude Test Battery (GATB)

Author: U. S. Training and Employment Service (USTES)

Publisher: U. S. Government Printing Office

Year: 1946-1970

Type of Instrument: Aptitude Test

Age Level: 16 (grades 9-12) and Adults

Occupational Classification System: Own. See section three of paper.

Test Content: Twelve tests measuring nine factors; Intelligence (G), Verbal Aptitude (V), Numerical Aptitude (N), Spatial Aptitude (S), Form Perception (P), Clerical Perception (Q), Motor Coordination (K), Finger Dexterity (M).

Test Time: 150 minutes.

Test Scoring: Hand and Computer

Type Population: Skewed to "blue-collar" jobs.

Comments on Test: The Seventh Mental Measurements Yearbook, David J. Weiss, Associate Professor of Psychology, University of Minnesota, Minneapolis, Minnesota. "According to its authors, the GATB is the 'best validated multiple aptitude test battery in existence for use in vocational guidance.' On a relative basis this may be true, but the GATB leaves much to be desired if it is to be adequately used for vocational guidance.

The often-criticized multiple cutoff method for determining whether an individual 'passes' or 'fails' the minimum qualifying scores (Occupational Aptitude Patterns, or OAP's) for a job or group of jobs severely limits its use in guidance. The OAP approach, as operationalized by the United States Training and Employment Service (USTES), fails to give any indication of the relative probabilities of success if the individual qualifies for more than one OAP." ..."USTES has failed to provide empirical evidence to show the superiority of the multiple cutoff approach over alternative prediction models." ..."If the GATB is to be used in guidance, scoring and interpretation by computer should be mandatory; there is simply too much data for the counselor to integrate meaningfully."

"SUMMARY. The GATB is certainly the best researched of the multiple aptitude batteries. Because of its large amount of validity data, it should be useful to vocational counselors; but it suffers from a stagnation which limits its usefulness in many situations. Rather than continue the same old kinds of research and methods it has pursued for the past 25 years, USTES should carefully reexamine its data and methods and proceed in some of the new directions outlined above so that the GATB will continue to be useful to the vocational counselor."

Name of Test: Vocational Planning Inventory (VPI)

Publisher: Science Research Associates, Inc.

Year: 1968-1970

Type of Instrument: Aptitude Tests and Value Surveys

Age Level: Grades 8-10, 11-12 and grade 13 entrants.

Test Content: Curriculum Areas predicted (grade range) are: General Academic, General Vocational, Business, Mechanical & Mechanical Maintenance, Drafting & Design, Metal Trades, Home Economics & Health, Construction Trades, Electronics & Electrical Trades, Agriculture.

Test Time: 2.5 hours for grade 13.

Type Scoring: Computer

Type Population: High school and vocational students, post-high school.

Comments on Test: The Eighth Mental Measurements Handbook #1027.

Paul R. Lohnes, Professor of Education, State University of New York at Buffalo, Buffalo, New York. "The Vocational Planning Inventory provides an ambitious assessment of Aptitudes and values for noncollege-bound adolescents who are oriented toward vocational education....One form provides guidance to older youths, nominally at grade levels 11 through 13, whose concern is planning post-high-school vocational education matriculation. The program is very attractive in format, reasonable in time requirements and cost, supported by good report forms and manuals, unique (to my knowledge) in the prediction scheme on which interpretations of score profiles are based, and sound in the concepts of vocational guidance which it advances."

"Some of the strengths of the program have to be described briefly to set the stage for comments on some of the weaknesses. A major strength is the attempt to survey aptitudes and proclivities which are known to be relevant to vocational choice for these clients on a broad spectrum. Thus, there are 9 or 10 tests (depending on form) ranging over verbal ability, arithmetic, mechanics, pictorial reasoning, tables, scales, memory, assembly, and a survey of values. Each test is short, since the required reliability will be for multiple regression functions based on all the tests. A possible weakness is that no interest survey is included. The program manual recommends that a Kuder be administered, but then the interests would not contribute to the multiple regression predictions of course grades, which are the main interpretive devices.... We may conclude that the breadth of the VPI assessment is impressive, but it could be improved in coverage of traits and in organization of scales."

Name of Test: California Occupational Preference System (COPS)

Authors: Robert R. Knapp & Lila Knapp

Publisher: Ed ITS/Educational and Industrial Testing Service

Year: 1966-1976

Type of Instrument: Vocational Interest Assessment

Age Level: Grade 9-12, College

Occupational Classification System: Roe's Field and Level Classification of Occupations.

Test Content: Yields scores in eight major groups according to two levels each, professional and skilled. (Herr & Cramer, 1979). Scores on consumer economics, outdoor, clerical, communication and 2 scores (skilled, professional) for each of the following: science, technology, business, arts and service.

Test Time: 30 to 40 minutes.

Type Scoring: Hand or computer scored plus self-scoring. Scores expressed in percentiles for males and females.

Type Population: Professional and skilled.

Comments on Test: The Eighth Mental Measurements Yearbook #992.

Jo-Ida C. Hansen, Assistant Professor of Psychology and Director, Center for Interest Measurement Research, University of Minnesota, Minneapolis, Minn. "Like the earlier edition, this revision is designed to assist in career exploration by identifying activity interest scores that are keyed to the Occupational Outlook Handbook and the Dictionary of Occupational Titles."

"One reason for the revision was to add new items that cover a wider range of occupational opportunities; another was to change the wording of some items to a lower reading level. Whether or not items were simplified enough to reduce the reading level is questionable....Occupational titles in the interpretive materials have been changed to eliminate sex-bias titles. The authors provide separate sex norms based on either a high school sample or a college sample."

Wilbur L. Layton, Professor of Psychology, Iowa State University, Ames, Iowa. "The most serious shortcoming of COPS is the lack of evidence of predictive and concurrent validity."

Conclusion. The authors have devised a system with what might be considerable potential for encouraging career exploration especially at the high school level. However, because they have presented no evidence of concurrent or predictive validity, COPS should be used with considerable caution because there is a danger of leading pupils in the wrong direction in their career exploration."

Name of Test: Career Assessment Inventory (CAI)

Author: C. B. Johansson

Publisher: NCS Interpretive Scoring Systems

Year: 1973-1976

Type of Instrument: Vocational Interest Assessment

Age Level: Grade 8-Adult

Occupational Classificaition System: Holland's Typology

Test Content: Holland's six types plus 22 basic and 42 specific occupational scores as follows:

Realistic: Mechanical/Fixing, Electronics, Carpentry, Manual/Skilled trades, Agriculture, Nature/Outdoors, Animal Service
Investigative: Science, Numbers.
Artistic: Writing, Performing/Entertaining, Arts/Crafts.
Social: Social Service, Teaching, Child Care, Medical Service, Religious Activities.
Enterprising: Business, Sales
Conventional: Office Practices, Clerical/Clerking, Food Service.

Test Time: About 45 minutes.

Type Scoring: Computer

Type Population: Subprofessional levels, undecided non-four-year or advanced college degrees.

Comments on Test: The Eighth Mental Measurements Yearbook #993.

Jack L. Bodden, Area Director, Central Counties Center for MH-MR Services, Temple, Texas. "At first glance, the Career Assessment Inventory looks very much like the Strong-Campbell Interest Inventory, and, in fact, a more thorough inspection reveals a degree of similarity which is more than cosmetic. The CAI is actually intended to be a 'blue collar' version of the SCII."

"In conclusion, the CAI is an excellent instrument and one which will probably receive wide acceptance and usage. It has an appropriate reason for being and should prove especially valuable to high school counselors in areas where a minority of students typically attend college. In addition to being a carefully constructed test designed to meet a genuine need, the CAI is built upon and ties into the theory and research of Holland, Strong, and Campbell. The only apparent limitation on the use of the CAI at present would appear to be a relatively small number of occupational scales (32)."

Name of Test: Kuder Occupational Interest Survey Form DD (KOIS)

Author: G. Frederic Kuder

Publisher: Science Research Associates, Inc.

Year: 1956-1970

Type of Instrument: Vocational Interest Assessment

Age Level: Grades 11-16 and Adults

Occupational Classification System: May be related to careers through Lombard, J.W. Career Guidance and the Kuder Interest Inventories. Chicago: Science Research Associates, 1973.

Test Content: 77 occupational scales & 29 college major scales for men & 57 occupational skills & 27 college major scales for women. Verification (V) scale & eight experimental scales.

Test Time: No time limit. 30 to 40 minutes.

Type Scoring: Computer scoring - reported in terms of modified biserial correlations.

Type Population: Primarily professional vocations but it does have more non-professional than the SCII.

Comments on Test: The Seventh Mental Measurements Yearbook, Robert H. Dolliver, Associate Professor and Counseling Psychologist, University of Missouri, Columbia, Missouri. "The items are in the same triad format as in Form D; the subject picks his most and his least preferred activity from the three alternatives. Kuder comments that this format keeps potential responses bias from operating. Each item can have any of six possible combinations of response. This, the 100 test triads become 600 potential patterns of item response."

"The information provided in the manual gives some assurance that this is a very good test. But more reliability and validity data are needed from more groups over longer time periods before the test can be used with confidence in individual counseling. There is enough evidence now to support that this is useful as a heuristic device to suggest possible occupations and college majors for thoughtful consideration.

Inevitably, a comparison must be made between the Kuder DD and the SVIB. ...But because the SVIB has accumulated more supporting reliability and validity data, the SVIB remains the better test, in this reviewer's opinion."

Name of Test: Strong-Campbell Interest Inventory (SCII)

Author: Edward K. Strong, Jr. & David P. Campbell

Publisher: Stanford University Press

Year: 1927-1977

Type of Instrument: Vocational Interest Assessment.

Age Level: Ages 16 & Up.

Occupational Classification System: Holland's Classification System

Test Content: Six General Occupational Theme Scales and 23 Basic Interest Scales as Follows:

Realistic Theme; Agriculture, Nature, Adventure, Military Activities, Mechanical Activities.
Investigative Theme; Science, Mathematics, Medical Science, Medical Service.
Artistic Theme; Music/Dramatics, Art, Writing.
Social Theme; Teaching, Social Service, Athletics, Domestic Arts, Religious Activities.
Enterprising Theme; Public Speaking, Law/Politics, Merchandising, Sales, Business Management.
Conventional Theme; Office Practices
Also yields scores on 124 Occupational Scales, primarily professional, an Academic Orientation Scale (AOR) and an Introversion-Extroversion Scale (I-E).

Test Time: No time limit. 30 to 45 minutes.

Type Scoring: Computer scored

Type Population: Suitable for those going into professional vocations.

Comments on Test: The Eighth Mental Measurements Yearbook, John O. Crites, Professor of Psychology, University of Maryland, College Park, Maryland. "Recognized as the paragon of applied behavioral measures and widely acclaimed as the bellwether of career counseling and personnel selection, the several editions of the Strong Vocational Interest Blank have a venerable history and reputation, dating back to the late 1920's and spanning the subsequent decades to its most recent revision in 1974. Literally thousands of studies have been conducted on the SVIB, and millions of copies have been sold."

Robert H. Dolliver, Professor of Psychology and Counseling Psychologist, University of Missouri, Columbia, Missouri. "The SCII appears to the reviewer to be the best vocational interest inventory available. Potential users may still have questions about the value of the SCII. Simply asking college students their vocational interests is as accurate as earlier editions of the SVIB, accurate for about 50% of those studied."

Name of Test: Vocational Preference Inventory (VPI), Sixth Revision

Author: John L. Holland

Publisher: Consulting Psychologists Press, Inc.

Year: 1953-1975

Type of Instrument: Vocational Interest Assessment and Personality

Age Level: High school (grade 9), College, Adults

Occupational Classification System: Holland's Typology

Test Content: Holland's six occupation catagories plus five personality traits; Self-Control, Masculinity, Status, Infrequency, Acquiescence.

Test Time: 15-30 minutes

Type Scoring: Self-scored

Type Population: Primarily professional vocations.

Comments on Test: The Eighth Mental Measurements Yearbook #1028.
Journal of Educational Measurement 9(2):167-9 Summer '72. W. Bruce Walsh. "The rationale for the development of the VPI was based on the idea that preferences for occupations are expressions of personality. These preferences, while stereotyped, tend to be reliable and consistent with reality. To the degree an individual prefers a large number of occupations associated with a personality orientation, his favored coping behavior for dealing with interpersonal and environmental problems may be inferred. Thus, according to Holland, interest inventories are personality inventories, and vocational preferences represent a major facit of an individual's personality. Although the primary purpose of the VPI is to assess personality, the inventory may also be used as an interest inventory and to stimulate occupational exploration. "

Name of Test: Career Maturity Inventory (CMI)

Author: John O. Crites

Publisher: CTB/McGraw-Hill

Year: 1973

Type of Instrument: Career Maturity Assessment

Age Level: Grades 6-13

Occupational Classification System: Super's Career Theory

Text Content: Two tests. (1) Attitude Test (T-F) measuring, a. Involvement in the choice process. b. Orientation toward work. c. Independence in decision-making. d. Preference for choice factors. e. Conceptions of the choice process. (2) Competency Test (multiple choice) measuring. a. Problems: problem solving in career decision-making. b. Planning: logical steps to career goals. c. Occupational information: job duties & tasks, employment trends. d. Self-Appraisal: assessment of hypothetical person's assets & liabilities in relation to career success and satisfaction. e. Goal selection: choosing the most realistic occupation for a fictitious individual. Attitude test has been more widely used than Competency Test.

Test Time: Attitude Test - 20 to 30 minutes
Competency Test - 2 to 2.5 hours

Type Scoring: Manual or Computer

Comments on Test: The Eighth Mental Measurements Yearbook #997.
Martin R. Katz, Senior Research Psychologist, Educational Testing Service, Princeton, New Jersey. "The CMI consists of a 50-item Attitude Scale and a Competence Test containing five subtests of 20 items each. The attitudes and competencies represented by the inventory are conceptualized, along with consistency and realism of career choices, as constituting a comprehensive model of the construct, career maturity in adolescence. Much thought and planning have gome into the development of CMI, and care has been taken to make the rationale explicit. Although a great deal of thought and care have gone into the development of the Competence Test, this test cannot be recommended for use as a criterion of competencies involved in career decision-making or career development, for diagnostic measurement, or for any other purpose."

Name of Test : Hall Occupational Orientation Inventory (HOOI)

Author: L. G. Hall

Publisher: Scholastic Testing Service, Inc.

Year: 1968-1976

Type of Instrument: Work Values Assessment

Age Level: Grade 3-7, high school and college, handicapped adults.

Classification System: Maslow's personality need theory, Ann Roe's typology, and Dictionary of Occupational Titles.

Test Content: Yields 22 scores (10 items each) for; Creativity, Independence, Risk, Information, Knowledge, Belongingness, Security, Aspiration, Esteem, Self-Actualization, Personal Satisfaction, Routine-Dependence, Data Orientation, Things Orientation, People Orientation, Location Concern, Aptitude Concern, Monetary Concern, Physical Abilities Concern, Environment Concern, Co-worker Concern, Qualifications Concern, Time Concern, Defensiveness .

Test Time: 30-40 minutes

Type Scoring: Hand scored and Computer

Comments on Test: The Eighth Mental Measurements Yearbook #1003. Robert H. Dolliver, Professor of Psychology and Counseling Psychologist, University of Missouri, Columbia, Missouri. "I like the HOOI premise that promoting awareness of self and occupational characteristics is a useful activity. The inventory looks to me as though it could be a useful counseling or classroom method for promoting such awareness. However, I believe that most college and high school students would already have the levels of self and occupational awareness represented in HOOI. The 1976 manual notes, 'The primary aim of the HALL is instruction not measurement. The HALL is basically an instructional package cast in a measurement format.' I do not see sufficient evidence in the 1976 manual to feel assured that the inventory does promote instruction. I find enough (a) diversity of items on the same scale, (b) doubts about the stated relationship to USDL ratings, (c) lack of specificity about data presented, and (d) confusing conceptual stance regarding the 'matching' orientation to recommend caution to the HOOI user."

Name of Test: Work Values Inventory (WVI)

Author: Donald E. Super

Publisher: Houghton Mifflin Co.

Year: 1968-1970

Type of Instrument: Work Values Assessment

Age Level: Grades 7-16 and adults

Test Content: 15 scales: altruism, esthetics, creativity, intellectual stimulation, independence, achievement, prestige, management, economic returns, security, surroundings, supervisory relations, associates, variety, way of life. Four factors; material, goodness of life, self-expression, behavioral control.

Test Time: 10-20 minutes

Type Scoring: Computer

Type Population: Students and adults

Comments on Test: The Seventh Mental Measurements Yearbook #1042

David B. Tiedeman, Professor of Education, Harvard University, Cambridge, Massachusetts.

"In summary, the Work Values Inventory checks out in a number of important ways. It has a solid general base. It is aimed at an important specific departure from that general base, namely work. It has tolerable reliability. A good deal of work was put into obtaining norms for the inventory. However, the interpersonal context does not seem to help in offering meaning to vocational choice or development. The personal context seems to offer greater promise, but this context is not exploited in the manual. Hence counselors will be on their own in lending personal meaning to the inventory. So will those persons who complete it. But counselors and those who inventory their work values should not despair. The values are fairly clearly defined. It is possible from the raw scores to determine how a subject values each area. Some careful thought about the meaning of the values might well guide a person in his consideration of his work, vocation, and career. At about 50¢ for the test and its scoring, it seems worthwhile to place one's values into this context. If you do, just don't worry about how stable your inventoried values will be or what they will predict. The major contribution of the exercise to your well-being will be in terms of what it teaches you about what you consider to be worthwhile about work at the present moment. This is really quite valuable if you stop to reflect on that value just a little!"

Name of Test: The Harrington/O'Shea System for Career Decision-Making

Authors: Thomas F. Harrington & Arthur J. O'Shea

Publisher: Career Planning Associates, Inc. Distributed by Chronical Guidance Publications, Inc.

Year: 1974-1976

Type of Instrument: Career Assessment Device

Age Level: Grades 8-14 and Adults

Occupational Classification System: Holland's Typology

Test Content: 6 scores; arts, business, clerical, crafts, scientific, social and 18 career clusters; art work, clerical work, customer services, data analysis, education work, entertainment, legal, literary work, management, manual work, math-science, medical-dental, music work, personal service, sales work, skilled crafts, social services, technical and questions in 5 areas; abilities, future plans, job values, occupational preferences, school subject preferences.

Test Time: 40 minutes

Type Scoring: Self scoring and Computer

Comments on Test: The Eighth Mental Measurements Yearbook #1004.

Carl G. Willis, Counseling Psychologist, University of Missouri, Columbia, Missouri. "In developing the CDM, the authors were convinced that many clients received interpretations of their interest test scores which were inadequately presented. Even in those cases where clients have received competent assistance, counselors have been operating on the doubtful assumption that clients remembered in detail their very involved, sophisticated interpretations. The rationale for the development of the CDM is the need for a vocational interest inventory with a sound theoretical base which is self-administered and self-interpreted. Data are presented in the manual to support the use of the CDM as a self-scoring instrument. Correlations between student calculated scores and author calculated scores for the six scales range from .96 to .99. The authors still caution us to check client scoring, expecially with younger students, the unmotivated, and those with limited reading skills."

"The CDM is not a criterion-based instrument It relies on raw scores in suggesting career clusters for exploration. The career clusters were derived by applying Holland's occupational classification system to the worker trait groups in the Dictionary of Occupational Titles. Although there is no predictive validity, the manual presents an argument to support construct validity. Concurrent validity is based on the relationship to the VPI. Scale homogeneity is good. No item was selected by fewer than five percent of either sex. The lowest correlation of an item with an interest scale is .50, while the average item correlation within scale for all six scales ranges from .61 to .74. Alpha coefficients reported vary from .84 to .90 for the six interest scales. Test-retest correlations over a 30-day period range from .75 to .94. The normative sample seems well balanced compared to the 1970 census figures. Many sub norm groups are presented for comparison."

Name of Test: The Self Directed Search (SDS)

Author: John L. Holland

Publisher: Consulting Psychologists Press, Inc.

Year: 1970-1973

Type of Instrument: Career-Related Awareness, Knowledge and Attitudes

Age Level: Gr: 4-High School, college and adults.

Occupational Classification System: Holland's Typology and refers student to Jobs Finder.

Test Content: Self-reports and estimates regarding: 1. Occupational daydreams, 2. Preference for activities, 3. Competencies, 4. Preferences for kinds of occupations, 5. Abilities in various occupational areas. Self-administered and scored.

Test Time: 40-60 minutes.

Type Scoring: Self scored. Six scores (R-I-A-S-E-C) for each of 3 scales (activities, competencies, occupations).

Comments on Test: The Eighth Mental Measurements Yearbook #1022.

Measurement and Evaluation Guidance 10(2):120-3 Jl '77, Robert H. Dolliver and Robert N. Hansen. "Our experience with the SDS in a university counseling service indicates that....many undergraduate and graduate students do not read the directions carefully enough to correctly complete the SDS. Mistakes often occur multiplying the scores. Directions for the SDS activities section are confusing: Mark 'like' if you would like to do the activity, mark 'dislike' if you have never done the activity. Those categories are not mutually exclusive; both could be true. We believe that a counselor is needed to talk with the test taker about aspects of Holland's theory. Holland does not sufficiently clarify the possibility that part of the Summary Code may reflect avocational interests. The problem we encountered with students reading, following directions, and doing simple multiplication indicated a need for clerical monitoring of SDS administration. Encouraging exploration of career possibilities suggested by the SDS and the explanation of the more complicated aspects of Holland's theory appears to us to require the assistance of a trained person. SDS respondents also need assistance using the Occupations Finder....Our experience with the SDS does not support Holland's claim of its value as an entirely 'self-directed' search. In addition, we feel that the appropriate use of the SDS rests on the user's awareness that Holland has constructed a model of personality/occupational functioning. Part of this model closely corresponds to the real world; part of it does not (such as the large number of three-letter codes without occupations that fit the code description."

Name of Test: Personality Research Form E (PRF)

Author: Douglas W. Jackson

Publisher: Research Psychologists Press, Inc.

Year: 1965-1974

Type of Instrument: Personality Assessment

Age Level: Grades 7-16 and Adults.

Test Content: 22 scores on the following personality traits; achievement, affiliation, aggression, autonomy, dominance, endurance, exhibition, harm avoidance, impulsivity, nurturance, order, play, social recognition, understanding, infrequency, abasement, change, cognitive structure, defendence, sentience, succorance, desirability.

Test time: 40-70 minutes

Type Scoring: Hand scoring. Construct a personality profile sheet.

Type Population: General including college students.

Comments on Test: The Eighth Mental Measurements Yearbook (Form E) -
Robert Hogan, Professor of Psychology and Social Relations, The Johns Hopkins University, Baltimore, Maryland.

"As this overview suggests, the PRF is statistically well-designed; it has been developed with extraordinary attention to psychometric detail and is in some ways a paragon of technical sophistication."

"In summary, this is an interesting and marvelously well-constructed test whose empirical validity (after 10 years) has yet to be demonstrated. Many of its shortcomings are not unique but rather characteristic of the entire assessment enterprise as currently conducted, and thus it is unfair to single out the PRF for sharing these faults. In view of the test author's demonstrated energy and productivity, one would expect that validational evidence would be forthcoming in the future. In the meantime the test should be viewed for what it is--one of the more promising developments in personality assessment in recent years"

TWO-YEAR COLLEGE CAREER COUNSELING QUESTIONNAIRE

(Form Can Be Filled In With Pen or Pencil)

1. College
2. Name & Address of Counselor Filling Out Form
3. Number of Full-time Day Students: Freshman Seniors
4. Number of Part-time Students:
5. Majors Offered
   (a) Associate Degree Programs
   (b) Certificate Programs
6. Students Transferred In %.
7. Students Transferred Out Prior to Completion of Curriculum %.
   (Include Dropouts, Transfer to Other Colleges & Unknown Reasons)
8. Freshmen who Complete 1st year %.
9. Matriculated Students Who Complete Program %.
10. Students Who Go On to 4 Year College %.
11. Past Students Who Secure Employment in Their Field Within 6 Months After Graduation %.
12. Does Career Counseling Office Also Do Job Placement? (If Not What Office Does?)
13. Number of Career Counselors.
14. Number Other Types of Counselors.
15. Educational & Work Experience of Counselors.

ASSESSMENT INSTRUMENTS

Name of Instrument

Classification*

Who Administers

How Often Administered

Where Administered

Used For What % of Students

Group Administered

Number of Years Used

Cost to Student

Computer Scored

Are Results Individually Discussed with Student

How Decide to Use This Test

Use of Results

*Per A. Anastasi, Psychological Testing, 4th Edition, Pgs. 709-721, MacMillan Publishing Co., New York.

Appendix S

INTERVIEW SUMMARY FOR N. Y. CAPITAL DISTRICT TWO-YEAR COLLEGES

College	# Students F.T./P.T.	#Faculty & Staff	# Counselors	Separate Placement Office	# Assoc. Degree Programs	# Certificate Programs	Group Counseling Program	Career Plng. Credit Course	Workshops	Computer Guidance Sys.	Assessment Instruments Used
Adirondack C. C.	1300 FT 1500 PT	153 FT 106 PT	3.5	Yes	22	11	Yes	Yes	Yes	GIS	Yes
Junior College of Albany	880 FT 75 PT	55 FT 23 PT	1	No	22			In Plng.	Yes	SIGI	Yes
Cobleskill College	2350 FT 350 PT	216 FT 4 PT	3	Yes	27	7	Yes		Yes		Yes
Columbia-Greene C.C.	664 FT 636 PT	96 FT 14 PT	2.5*	No	29	9	Yes	Yes	Yes	Plng. SIGI	Yes
Hudson Valley C.C.	5250 FT 1500 PT	367 FT 44 PT	5	Yes	41	1		No	Yes	GIS	Yes
Maria College	454 FT 457 PT	57 FT 21 PT	1.5*	No	11	4	No	No	Yes	No	Yes
Schenectady County C.C.	1230 FT 1860 PT	122 FT 117 PT	4	Yes	18	8	Yes	No	Yes	No	Yes

*Includes Job Placement
FT-Full Time
PT-Part Time

Appendix T

MAILED QUESTIONNAIRE SUMMARY FOR TWO-YEAR COLLEGES

College	# Students FT/PT	# Faculty	# Counselors	Separate Placement Office	# Assoc. Degree Programs	# Certificate Programs	Group Counseling Program	Career Planning Credit Course	Workshops	Computer Guidance System	Assessment Instruments Used	Public or Independent College
Anderson College Anderson, S.C.	1078	44 FT 18 PT	2	Yes	10	1	Yes	No	Yes	No	Yes	I
Brewton-Parker Mt. Vernon,GA	325 FT 460 PT	27 FT 2 PT	1 PT	No	40	7	No	(1)	Yes	No	Yes	I
Greenville Technical College Greenville, S.C.	5551	200 FT 200 PT	7*	Yes	40	?	Yes	No		SCOIS (2)	Yes	P
College X Southwest	2500	150	4*	Yes	50	?	No	No	No	No	Yes	P
Springfield College In Illinois	400 FT 225 PT	21 FT 17 PT	1	Yes	15	?	No	No	No	No	Yes	I
Trocaire College Buffalo, N.Y.	1100 FT 300 PT	64 FT 45 PT	3*	No	8	?	No	No	Yes	No	No	I

*One devoted to Career Counseling
(1) Study Skills Practicum + 2 hrs/wk required of developmental students.
(2) South Carolina Occupational Information System